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AUTHOR	Chitayat, Linda; And Others
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ABSTRACT

The 1975-1976 year was the second year of a demonstration of the feasibility of a computerized retrieval system for providing occupational and educational information to students in City University of New York community colleges. Although first year results were encouraging in terms of counselor and staff reactions, the amount of computer use was only moderate. For the 1975-76 year, three of the four original colleges were retained in the demonstration; another was added; and a fifth project site was created. During 1975-76, the computer was used at the five sites by 1,165 different students for a total of 1,786 times. Considering only the performance of the three colleges involved in the demonstration both years, use of the computer in the second year increased by 93%. Site-to-site variations in use were marked. Approximately two-thirds of the students using the computer were in occupationally-related or special programs. The largest student group using the computer was in its first semester. Different approaches to recruitment were tried, with special demonstrations and counselor referrals promoting the most use. Attitudes toward computerization remained positive. (Author/JLL)

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A CONTINUATION OF THE DEMONSTRATION OF COMPUTERIZED OCCUPATIONAL INFORMATION DISSEMINATION IN FOUR URBAN COMMUNITY COLLEGES

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August 1976

INSTITUTE FOR RESEARCH AND DEVELOPMENT
IN OCCUPATIONAL EDUCATION
Center for Advanced Study in Education
City University of New York
33 West 42nd Street
New York, NY 10036

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A CONTINUATION OF THE DEMONSTRATION OF COMPUTERIZED OCCUPATIONAL INFORMATION DISSEMINATION IN FOUR URBAN COMMUNITY COLLEGES

Linda Chitayat
Arnold Jaffe
Barbara R. Heller

Institute for Research and Development in Occupational Education
Center for Advanced Study in Education
The Graduate School and University Center of the City University of New York

in cooperation with
The Bureau of Two-Year College Programs
and the
Division of Occupational Education Supervision
The New York State Education Department, University of the State of New York

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FOREWORD

The CASE Institute for Research and Development in Occupational Education (IRDOE) has been involved in the conduct and evaluation of computer-assisted guidance projects for several years, concerning itself with studies of both feasibility and impact. Among the motives has been the belief that the schools and colleges need a more economic means of delivering occupational information, in addition to the students' needs for interactive systems to facilitate their data manipulation to enable more appropriate decision-making.

Considerable success was evidenced in our efforts with high school populations, and there was every reason to assume that similar benefits would accrue to community college students in their quest for more and better information relative to their occupational education options. In our first year's program with four community colleges in the City University of New York, utilization was disappointing when compared with five high schools' utilization in a preceding year. This report deals with efforts in the second year of operation, using different administrative approaches, to improve utilization. Readers interested in pursuing similar activities, or those who can share their own experiences, are invited to contact IRDOE.

Lee Cohen
Director, IRDOE

ACKNOWLEDGEMENTS

As is usually the case, acknowledgements are due to many people whose efforts and ideas made this project possible.

We are indebted to the Presidents and Deans of Students at Bronx Community College, La Guardia Community College, and Staten Island Community College who have supported and encouraged this endeavor for two years; to the President of Kingsborough Community College and the Associate Dean, Continuing Education and Community Services, Bronx Community College, for their willingness to institute this program during a year of budgetary crises.

The project truly depended on the dedication and hard work of those individuals at the colleges given coordinating responsibility -- Anita Baskind, Eric Lindenmyer, Stanley Butterfass, Joseph Rogers, Marcia Murphy, LaVergne Trawick, and Paul Siegel. In addition, Andy Saluga, Shelley Press, Beverly Fields, and Faye Schiff were extraordinarily helpful in not only handling day-to-day project details, but also contributing to the evaluation.

Many others contributed to the project. Russell Nutter provided invaluable editorial and secretarial skills; Valentine Michielini and Sonja Ikenson expertly handled the myriad of administrative details; Melanie Bentley helped out in a variety of support functions. Lee Cohen, the Director of IRDOE, provided guidance throughout; Max Weiner, the Director of CASE, kept us concerned and conscious of our goals. Paul Chakonas, of the State Education Department, is owed a debt of thanks for his continued interest in and support of this project.

Recognition must also be given to the principal observers, Linda Cloer, Marsha Green, Marilyn Kerstein-Miller, and Charles Levner for performing the field visits and the arduous data collection and tabulation tasks. Their many hours of often tedious work were essential to the evaluation of the project, and greatly appreciated.

Barbara R. Heller
Project Director

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ABSTRACT

The 1975-76 year was the second year of a demonstration of the feasibility of a computerized retrieval system for providing occupational and educational information to students in City University of New York community colleges. Although first year results were encouraging in terms of counselor and staff reactions, the amount of computer use was moderate at best. For the 1975-76 year, three of the four original colleges were retained in the demonstration (the college with the lowest usage was dropped); another CUNY community college was added; and a fifth project site was created at the Continuing Education Center of one of the participating colleges. The administrators at the five project sites, as last year, were responsible for assuming some costs, and for assigning staff to supervise the project's day-to-day activities. The project coordinator at each site was either a member of the counseling department, or worked very closely with counselors.

In the ten months of operation during 1975-76, the computer was used at the five sites by 1165 different students a total of 1786 times. Considering only the performance of the three colleges involved in the demonstration both years, use of the computer in the second year increased by 93%.

Site-to-site variations in use were marked. In particular, substantially less use was made of the computer in this year's two new installations. This can be explained by: (1) the fact that an initial low-use year seems to be common before the computer is successfully integrated into the college's counseling services operation, and (2) the lack of sufficient staff support and interest at these sites.

Approximately two-thirds of the students using the computer were in occupationally-related or special programs, as compared to only half last year. The increase in non-liberal arts users may indicate that the project priorities were better served. Overall, occupational and college information were requested from the computer in equal proportions.

Combining all colleges, the largest population of students using the computer (28%) were in their first semester. Many students in special community college programs made use of the computer, including students in career classes, women considering re-entry into the world of work, adults changing careers, and veterans in GED preparatory courses. Many other community groups also used the computer facilities, such as counselors and students from public secondary schools.

Different approaches to recruitment were tried, including advertisements in local and school newspapers, posters on bulletin boards, letters to counselors, and special computer demonstrations in heavily trafficked areas. These special demonstrations and referrals from informed counselors seemed to promote the most use.

Attitudes towards computerized information retrieval in the area of counseling were very positive at all colleges. Although many counselors were directly involved with the project, there were still many people who had not as yet referred students looking for occupational or college information to the computer.

For the future, we suggest trying new methods to involve more counselors. Also, we suggest implementing a computerized information system in a community college outside CUNY to discover whether idiosyncracies of this university system contribute substantially to the initial implementation process.

A CONTINUATION OF THE DEMONSTRATION OF COMPUTERIZED OCCUPATIONAL INFORMATION DISSEMINATION IN FOUR URBAN COMMUNITY COLLEGES

PROJECT DESCRIPTION

Background

The demonstration of a computerized information retrieval system for occupational counseling functions began in 1974-75 with a grant from the New York State Education Department's Division of Occupational Education Supervision, Bureau of Two-Year College Programs.[1] The purpose of the project was to ascertain whether a computerized program would help fill the need for vocational information in counseling at the community college level. The second year, 1975-76, continuation project,[2] sponsored by the Bureau of Two-Year College Programs under the Vocational Education Amendments of 1968, sought to improve on the first year experience.

It is widely documented that students entering community college are often uncertain of their occupational plans. If students have elected a specific course of study, they have often done so on the basis of insufficient information, and/or because college policy forced a choice of major, at least as a provisional measure. It is evident that these students--whether they actively seek it out or not--could profit from vocational counseling.

The availability of computer programs that supply information about vocations and related training was expected to benefit the community college counseling department in several ways. First, computers are naturally suited to tasks of certain kinds, among them the storing of large amounts of data that can be retrieved virtually instantaneously. In terms of processing the information necessary for vocational decision-making, a computer can not only perform the function faster, but also relieves the counselor of the burden of searching out information about a large number of options. Thus, the counselor can concentrate on helping a student make the most appropriate decisions for himself based on all available information.

It is an added advantage that the novelty of being able to watch a computer in action would possibly draw students, who might not otherwise seek out advice, to the counseling office. This would increase the potential number of students who might be helped with their vocational and educational plans.

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[1] VEA Grant No. 75-2-587.

[2] New York State Education Department, Bureau of Two-Year College Programs, VEA No. 76-2-421.

Another virtue of automated information retrieval is that the logical structuring of the computer program forces the user to be equally precise in requesting information. The computer will do exactly what it is told to do, and any given instruction places immediately visible limitations on the type of information the computer yields. Thus, the process involved in instructing the computer to supply information demonstrates the implications of each instructional step--or in other words, each decision.

For these reasons, as well as the overwhelmingly positive response to a demonstration in New York City public high schools,[1] in 1974-75 the Institute for Research and Development in Occupational Education proposed a similar project in four community colleges in the City University of New York (CUNY).[2]

In the first year, four two-year colleges (Bronx Community College, La Guardia Community College, New York City Community College, and Staten Island Community College) agreed to participate in a pilot program. The overall goal of the first-year project was to demonstrate the feasibility of an automated system in providing occupational information and, if practicable, to evaluate its effectiveness. More specifically, the objectives were to:

- provide students with an awareness of different occupational fields and the range of occupations within a general occupational cluster, through an attractive and motivating approach;
- provide students with a decision-making focus or framework for in-depth career exploration with a counselor;
- relieve counseling staff from finding, collecting, and collating the informational aspects of career advisement; and
- assess the use made of a computerized information retrieval system at the community college level.

The Guidance Information System[3] was leased for the initial demonstration. Project funds covered all computer-related costs, as well as the management and evaluation costs. The participating colleges agreed to provide staff to coordinate the activities, absorb telephone expenses, and collect data necessary for the evaluation. A similar commitment was obtained from the colleges participating in the second year.

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[1] B. R. Heller and L. Chitayat, Computer-Assisted Guidance in New York City High Schools: A Demonstration of Feasibility and Impact on Students, Institute for Research and Development in Occupational Education, Center for Advanced Study in Education, City University of New York, in press.

[2] B. R. Heller, L. Chitayat, et al. A Demonstration of a Computerized Information System in Four Urban Community Colleges, Institute for Research and Development in Occupational Education, Center for Advanced Study in Education, City University of New York, #CASE-20-75, September 1975.

[3] The Guidance Information System is a product of Time Share Corporation and the Houghton Mifflin Company.

During the first project year, the computer system was used a total of 507 hours, or a rate of approximately two hours a day. The number of different individual students using the computer facility was 635, and the number of times these students used the system was 868. The amount of use by each college differed greatly. One school accounted for approximately half of the student users. At the other extreme, one college served less than five percent of the total number of students using the computer during 1974-75.

The wide variability in computer use was suspected to be partly related to the way the colleges staffed the project. Since no college provided released time for the project coordinator(s), at several sites much of the responsibility for the operation was left to part-time student aides. Generally, the students were difficult to train, and even after repeated visits by Institute for Research and Development in Occupational Education (IRDOE) staff, used the computer facility in a highly idiosyncratic fashion. Had the students been more closely supervised, and their schedules less fragmented, use in these colleges might have increased.

The level of use also seemed related to the effort spent by the college staff to recruit student users. It is particularly important on large and multi-unit college campuses to make students aware of newly available services, and where they can go to get them.

Attitudes toward the concept and practice of computerized guidance information were positive at all project sites, as indicated by informal talks with college staff and questionnaire responses from the project coordinators. Feedback from counselors about the quality and usefulness of the information was positive as well. From all indications, the computer was seen as a valuable tool by counselors, whether or not they used it.

The 1975-1976 Project

The problem IRDOE wished to address in the current, 1975-76, year was how to increase the use of a computerized system that had generally received very favorable response, but relatively "little action."

Project Objectives. Based on the results of the first year, several objectives were added:

(1) To design recruitment procedures to increase the use of the computerized system by students in the community colleges;

(2) To expand services to adult populations served by the community colleges;

(3) To improve other-than-recruitment implementation strategies, such as the procedures for scheduling student use and follow-up counseling;

(4) To assess the impact of the system on user groups; and

(5) To produce a set of recommendations of strategies for successful implementation of similar projects at other two-year college sites.

Participating Colleges. As in the first year, all colleges in the demonstration were community colleges in the CUNY system. Three of the four schools that participated in the first year were continued in the second: Bronx Community College, La Guardia Community College, and Staten Island Community College. The college with the lowest amount of use was replaced with one new school, Kingsborough Community College. In keeping with the project objective of making the computerized information system available to adult populations, a fifth site was selected--a Continuing Education Center of one of the community colleges. The participating colleges, as was done last year, were randomly assigned codes A through E to insure anonymity.[1]

College A, founded in 1957, currently occupies the old campus of a private university. Slightly more than half of its 13,000 predominantly Black and Puerto Rican students attend classes on a part-time basis, mostly during the day. The student body is about evenly divided between career and transfer programs.

Site B, the Continuing Education Center, is located close to College A's campus, and boasts of a varied extension program serving communities throughout the borough. The Center uses an old junior high school building for offices and classrooms. The approximately 30 courses of study and special programs serve a population of 9,000. Most classes are given at night.

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[1] In the body of this report, data from the first project year will be compared to this year's data for the three colleges that participated in both. For the reader who wishes to refer to the first year report, note that College A in 1974-75 is College A in 1975-76; Colleges coded as Colleges C and E last year are Colleges D and E, respectively, this year.

College C was founded in 1963 and is located in a homogeneous, mostly white middle-class neighborhood. The college serves about 10,000 students in all of its programs.

College D is one of the smaller and newer colleges in the CUNY system, enrolling about 4,200 students. Largely experimental in orientation, College D is open 24 hours a day and on weekends. Approximately half the student body is enrolled in career programs, and approximately 60% of the students attend classes during the evening.

College E is located in an almost suburban setting. The student body is predominantly white and working class in composition. Approximately 63% of the total enrollment of 11,000 students are in transfer programs. Day students comprise 55% of the student body.

Identification of Target Populations. Priorities for students to use the computer information system were established in accordance with State Department of Education policy, as they were in the first year. Students were encouraged to use the computer facility based on the following--listed from highest to lowest--priorities:

- students enrolled in an occupational curriculum desiring to change curriculum -- this includes those seeking alternative options within a program of study and those seeking alternatives outside their initial chosen field;
- students dissatisfied with their progress and/or curriculum who need additional career counseling;
- student "drop-ins," including those in extension programs, evening programs, etc. who are in need of retraining;
- and, if time permitted, dissatisfied students in liberal arts programs, specifically identified by the counseling staff as having interest in and potential for success in an occupational curriculum.

Within this framework, the colleges were to identify subgroups of students toward whom targeted recruitment drives could be directed. For example, attempts were made to involve enrollees in special orientation classes, career or "choice" programs, veterans' programs, and programs for high school students taking courses at the community college. In addition, non-matriculated students attending special classes or workshops (e.g., classes for mature adult women, for high school dropouts) were singled out as potential target groups that might benefit from the computer experience.

While adults in special programs were to be recruited at all the colleges, we anticipated they would constitute the major group of users at the Continuing Education Center.

Community College Responsibilities. As in 1974-75, the community colleges were responsible for telephone costs. A telephone was required at each of the sites to connect the computer terminal to the central computer in New Hampshire. The cost of telephone service averaged $20 per month at four of the sites. For College E, however, the charge was closer to $100 per month. This was due to the fact that, because of its geographic location in the city, the telephone number they dialed for access to the computer involved message-unit billing. Since College E used the system regularly, the amount of the telephone bill caused the administration some consternation with the result that, at the end of May, they had the telephone disconnected.

In addition to the telephone costs, the colleges agreed to adequately staff the project. Adequate staffing included the assignment of a coordinator or liaison who would have overall responsibility for the project's operation, as well as any paraprofessionals, student aides, or other staff the college deemed necessary for proper functioning.

The Guidance Information System

The Guidance Information System (GIS) marketed by Time Share Corporation (TSC) was used in both years of the demonstration. Since GIS remained essentially unchanged from the first year, little new effort was devoted to analyzing its strengths and weaknesses. In this section of the report, we will briefly describe GIS, and provide a short discussion of the results of the first year analyses. We will, in addition, include new data gathered this year.

GIS is an information retrieval system that permits an individual user to ask for information in an interactive manner. There are four files in the data bank from which a user can request information:

- a four-year college file, containing information on approximately 1600 colleges in the United States;
- a two-year college file, containing information on approximately 1000 junior and community colleges in the nation;
- an occupational file, based on information taken primarily from the Dictionary of Occupational Titles (D.O.T.) --this file consists of approximately 1300 of the 20,000 occupations listed in the D.O.T.; and

- a "prototypical" scholarship file, which has been all but ignored by almost every high school or college participant. Its usefulness is questioned by all, including the system's vendor.

The hardware consists of a teletypewriter terminal located at each site, which is connected to Time Share Corporation's central computer by means of a simple telephone hook-up. A person wanting information from the computer data bank sits at the terminal and types in coded instructions or "commands." These are transmitted along phone lines to the computer. Output from the computer is automatically printed on the teletypewriter. Of the 14 commands by which the user can instruct the computer, only four or five are actually necessary to be able to retrieve the desired information. The other commands enable the user to perform the same functions more elegantly and with a saving of time.

There are two general modes of inquiry, which we have called "search" and "description." The search mode allows an individual to feed into the computer those attributes he desires in an occupation or a college; as output he receives a list of colleges or occupations that satisfy those requirements. Thus, for example, a user can "search" for occupations that require two years of training beyond high school, that are in the health cluster, that need little arithmetic ability, and require motor dexterity. The computer responds with a list of occupations with these attributes. The other type of inquiry--description--allows the user to ask for descriptive information about a specific occupation or college included in the data bank. Thus, an individual can ask for a job description of a "medical laboratory technician." (For a more detailed description of GIS, the reader is referred to the report on the first year operation.)[1]

GIS comes with a User Manual, which explains how to operate the teletypewriter terminal, and includes an index of all occupations and colleges on file in the computer data banks. The Student Study Guide defines and explains the use of the various commands. It also provides a list of characteristics (i.e., attributes) which can be used in the search for occupations or colleges one is interested in. Examples of characteristics for the college files include majors offered, tuition, coeducation, and sports. Characteristics which define occupations include such things as occupational cluster, amount of education required, and personal interests.

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[1] B. R. Heller, September 1975, op. cit.

Information assessing the adequacy of GIS for the community college population was collected in both the first and second year by questionnaires completed by the project coordinators, through Information Rating Cards filled out by the users, and by observation. IRDOE was concerned with the usefulness of the Student Study Guide and User Manual, with the ease of getting information from the computer, and the quality and relevance of the information.

Overall, the Student Study Guide was not given a very good rating by the project coordinators. They found the explanations "complete but confusing," and the format was generally rated "unsatisfactory." One coordinator this year described the format of the Guide as "too dry [and] looks difficult." Comments about the User Manual were minimal, although one coordinator suggested that it incorporate more remedies to be tried when the system was malfunctioning.

Most of the data describing difficulties in operating GIS is based on observations. No one had any trouble learning to gain access to GIS, which consists of dialing the access number, "coupling" (or connecting) the phone to the terminal, and identifying the legality of the operator by typing in a password. Most staff had very little difficulty learning what kind of information GIS could provide, and how the commands had to be used to access that information. The length of time, however, needed to learn these latter operations varied from "almost immediately" to a "week or two of practice." There were several people that IRDOE trained who never really mastered them. This was not so much due to the fact that GIS is complex, but seemed to have more to do with differences in the desire to learn. Certain counselors may have been afraid that expertise with the system would lead to their becoming the terminal operator for too many students. Certain student aides never developed expertise in its use, possibly because of the limited time they spent at the computer terminal.

In both project years, the coordinators agreed that although not perfect, the information provided by GIS was basically useful to students. Several suggestions were given for improving the information to better meet the needs of the community colleges:

- The data bank should be regional. Because the information in GIS is based on national standards, it includes things which are irrelevant or untrue for New York City--e.g., the average entry-level salaries for occupations, and the amount of schooling required for certain occupations such as nursing. Another consequence of having a nationally-based data bank is that a great deal of counselor effort is expended in augmenting the information for regional consumption.

- In addition to information on two-year and four-year colleges, the data banks should include other private and public vocational training institutions.
- The sample of occupations classified in the occupational file should be more relevant, should include more commonly requested jobs (e.g., art therapist, and mental health therapist), and jobs in emerging fields. The data bank should not include occupations requiring less than a high school diploma.
- The information in the data bank should be updated more frequently. It has been pointed out by liaisons that some schools are offering several new majors such as Bilingual Education), but these are not included in the college files.
- The college files should expand the information needed by "transfer" students. For example, such students need to know approximately how many credits are usually accepted by another institution.

While the adequacy of any specific system in a demonstration project undoubtedly affects the level of use, it has been our experience that despite its deficiencies, GIS fulfills the purpose well--and illustrates how computerized information systems for occupational counseling might be accepted at the community college. We assume, however, that if the system was made more relevant to the needs of the college, the quality of the computer experience and the amount of use would improve

EVALUATION

The evaluation of this project was designed to provide data describing the amount of use made of the computer by the participating community colleges; the characteristics of users of the system; the usefulness of the computer information; the effective procedures for the operation at the college; the effects on students; and the reactions of staff and students. When comparable data exists, year-to-year comparisons will be made for the three colleges that participated both years; we will also examine new participant problems by looking at the colleges new to the program this year and comparing them with those continuing for the second year.

A total of 58 man-day observation visits were made by members of the IRDOE staff to the five project sites. These observations had two main purposes. The first was to obtain first-hand information to supplement what was reported on how the program was operating, what recruiting and followup procedures were being used, which staff was responsible for day-to-day charge of the various functions, where publicity posters were displayed, and how busy the rooms were in which terminals were located. The second purpose was to gather reactions from staff and students through less formal means than "opinionaires."

Information about "mechanical" (or electronic) problems with the hardware were to be reported on a Hardware Monitoring Checklist.[1] The college staff was to fill out one such Checklist for each day that they were scheduled to use the computer. The Checklist, which had been designed last year, indicates either that there were no mechanical problems that day, or if problems did arise, of what type and duration. Unfortunately, the colleges were very lax about filling these out. Colleges B and C never completed a form, College A filled out 3, and Colleges D and E filled out 23 and 12, respectively. Although College D completed the largest number of Hardware Monitoring Checklists, these represented only 28% of the total days on which they used the computer. Information about malfunctions had to be supplemented from other sources, such as the phone calls to IRDOE for help when equipment failures occurred.

The colleges were supplied with a large number of Information Rating Cards [2] designed to record feedback on the quality of information. One card was to be completed whenever a user came across either particularly poor or valuable information, or if someone wanted to comment about alterations that would make GIS more useful. Few Rating Cards were filled out; we received a total of 11 from all 5 colleges. More often criticisms and praises were relayed in discussions with IRDOE observers.

Data on the amount of computer time used, the times of day the computer was in use, the number of users and their characteristics, and the kinds of information requested, were obtained by means of a Terminal Sign-In procedure. Each person who wanted information from the computer was asked to type in certain identification directly on the teletypewriter terminal immediately before use. Everything signed-in in this way was temporarily recorded by

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[1] A copy of this and all other instruments used in this year's evaluation are in Appendix A.

[2] See Appendix A.

the computer. Through a program modification, IRDOE was able to retrieve this data, which included a second-by-second account of each computer use. We asked College E for one additional piece of information describing how each student user learned about the availability of the computer, so that we could analyze the effectiveness of the various recruitment efforts.

When used meticulously, the Terminal Sign-In procedure provided accurate and reliable records. It was difficult to make sure that all people operating the terminal were consistent in signing in user identification; however, this proved less of a problem this year than last because of IRDOE's repeated reminders. Another--largely unanticipated--problem was with the occasional central computer breakdowns that resulted in a loss of user identification records. In total, records were lost for five calendar days.

To ascertain counseling staffs' familiarity with the computer project and their reactions to it, in late February 1976 a Community College Counselor Questionnaire (see Appendix A) was mailed to all members of the counseling departments in Colleges A, C, D, and E. A total of 129 questionnaires were mailed, of which 49 (approximately 38%) were completed and returned to IRDOE.

A lengthy Counselor-Liaison Questionnaire was mailed to the person at each of the five sites who had responsibility for the computer project. This questionnaire (see Appendix A) asked about all aspects of program implementation--staffing, procedures for student recruitment, terminal operation, and followup activities. We also asked for counselor impressions of student and staff reactions to the project, and its effects on them. These questionnaires were mailed in May, shortly before CUNY shut down for two weeks with budget problems. Probably due to the turmoil, two of the five questionnaires (those from College A and Site B) were not returned to us.

One of the evaluative concerns for this year was to assess how students were recruited and how students themselves perceived the computer experience. Rather than relying on staff reports about student reactions, IRDOE developed two similar forms, a User Questionnaire and a User Interview (see Appendix A). A large number of User Questionnaires were placed near the computer terminal at Colleges A, C, D, and E. For a period of approximately six weeks, all students who came to use the computer were asked by the terminal operator to fill out a questionnaire immediately after the experience. The only exception was when an IRDOE staff member was present: in those cases, the IRDOE staff member would administer the Student Interview instead.

The number of completed User Questionnaires and Interviews fell quite short of the number expected. Completed forms were available for only 68 students, or 30% of the people who came to use the computer during the period between the beginning of March to the end of April. When asked why such a small percentage of users completed the Questionnaire form, we were told that the terminal operators frequently "forgot to hand them out." We were also told that students coming to use the computer were often "in a hurry and could not stay long enough" to answer the questions.

Other problems arose in attempting to administer sufficient numbers of Student Interviews. The difficulty was that student appointments for using the computer were scattered throughout the day, and in two colleges, often stretched into evening hours. Our graduate student observers, able to stay for only 4 to 5 hours at any one time, could interview only those students who showed up during the hours they were observing.

PROJECT IMPLEMENTATION

In this section of the report we will describe the scheduling of computer time, the colleges' allocation of staff to the project, the involvement of staff other than those assigned, and staff training. We will also present data on student recruitment and followup activities.

Time Schedule

Arrangements with Time Share Corporation, leasor of the GIS System, were the same as last year. We leased two access ports to the computer, so that at any given time, two colleges could use GIS without interfering with one another's operation. GIS was available, on each port, 22 hours a day, seven days a week.

IRDOE developed and maintained a calendar, and assigned each college two weekdays of use, each week, from September through June. The days of the week that were assigned to each college remained constant: for example, College A always had Tuesdays and Thursdays scheduled as their on-line days--days they had access to the computer.

To the extent possible, the assignment of days reflected the colleges' choice. Some difficulties did arise due to the fact that no more than two colleges could be accommodated at the same time on any one day. We had some added flexibility, however, by virtue of the fact that we were conducting a similar project in the New York City high schools, many of whom did not stay open as late as did the colleges. We were frequently able to assign a college "extra" late afternoon time if no high school could make use of it.

The colleges were encouraged to call IRDOE if they wanted to use the computer at times other than that scheduled. They actually requested extra time on a total of 27 different days, for events such as college-wide Career Days and demonstrations for special classes or workshop groups. Whenever extra time was requested, we tried to arrange a trade between colleges--"We'll give you Friday next week, if you give us Wednesday." This procedure continued to prove both equitable and effective.

Unfortunately, there was not a great amount of use on weekends, even though two colleges could have used the computer each Saturday and Sunday. We had anticipated that Site B could use weekends, and had reserved a port for them on Saturdays, but they never used it. There was some use of Saturday time by College D, which used eight different Saturdays for special seminars.

Location of Teletypewriter Terminals

The location of the computer teletypewriter terminal can make a major difference in its use. If it is inaccessible to students or others (particularly non-project staff who may become interested), use is discouraged. On the other hand, a highly visible location could help to maximize use. Terminal noise also needs to be considered, however, since the sound of the terminal working can be distracting or disturbing to people in the same room. Thus, a good location, paradoxically, must combine some visibility with a little privacy--a situation hard to come by in our over-utilized colleges.

At College A, the terminal was located in the building where all student-related services (health services, counseling, and so on) take place. The terminal was moved from last year's location in the Career Library to the office of the assistant counselor who was in charge of day-to-day computer project functions. While the move made it slightly less likely that students would walk in and use the computer without an appointment, its proximity to the Career Library and to all the colleges' counselors were important benefits.

At Site B, the computer terminal was placed in the outer office of the original project coordinator. It remained there even after the managerial responsibility for the project was transferred. Since all Continuing Education programs were centered in this one building, we must assume that this location was as good as any other office in that site.

College C located its terminal in the Career Counseling and Placement Office. The office, open from 9 a.m. to 5 p.m., contained College C's career library as well. The location was perfect in terms of accessibility by students, but the noise of the teletypewriter annoyed the secretaries and counselors.

At College D, the terminal was in the Career Advisory Center, which maintains a library of career and college information. The Center is open every day and most evenings, and students can use the room freely. Although the terminal was in the same location as last year, nearly all the counseling offices had been moved to another building across the street. This could have resulted in fewer "spontaneous" uses by students and counselors than was evidenced in 1974-1975, although it was not reflected in total use which increased.

College E placed the terminal in the CHOICE Center, in the same place as last year. It was housed in a small storeroom in the back to minimize the noise problems and insure privacy for the user. Its visibility was negligible, and the coordinator felt the location was "crowded and impersonal."

Staff Allocation

The choice of a coordinator was made by each college administration. In the three colleges participating in both years of the project (Colleges A, D, and E), the same staff members retained overall supervisory responsibility, although the roles of auxiliary staff changed somewhat.

At College A, the coordinator is a career counselor who supervised the computer's use, established procedures, and personally operated the terminal part of each on-line day and on most special occasions. Responsibility for the day-to-day computer operation was given to an assistant counselor whose other duties included working with the college's Student Volunteer program.

College A continued to use work-study and cooperative education students as aides--we trained two aides during the year--but to the best of our knowledge, they contributed a negligible amount of time to operating the terminal.

College D began the 1975-76 academic year with the same person who was coordinator in 1974-75. At the end of the calendar year (1975), the college was faced with budget problems and she was excessed. In January 1976, another counselor was assigned coordinating responsibility. In addition, a cooperative work-study intern was hired to manage the operation of the terminal and the other functions of the Career Advisory Center. College D, having assigned also four student aides to the project during the year, made the most use of students and gave the operation a strong "peer counseling" flavor.

College E reassigned last year's coordinator, and added a counselor-in-training as an assistant. This assistant worked at the college on its two on-line computer days, giving the coordinator more time to manage the college's testing program. Another counselor, who teaches a career planning course, continued to account for a great amount of computer time, personally operating the terminal for his students.

At the newly participating Continuing Education Center, Site B, the responsibility for managing the computer project was added to one person's already heavy project load. After the first two or so months of their operation--which first started in December--it became obvious that he had insufficient time for this project. The Director of the Center hired a coordinator to work at the Center three nights a week managing the computer operation. The new coordinator was an employee of College A who had a background in counseling and worked in the administration department during the day.

The coordinator at College C was the Director of Counseling and Placement, largely at whose request the college was to participate in the current 1975-76 project. Very early, at the time of the initial training session, he turned the responsibility for the computer project over to a member of the counseling staff. The counselor, in turn, transferred the bulk of the responsibility for the entire operation to a job placement aide hired under the Comprehensive Employment Training Act (CETA). During on-line days, the CETA aide was at the terminal from 9 a.m. to 5 p.m. In effect, the CETA aide became the project coordinator by default: observers rarely got to speak with other staff members about the project when they visited the college, and all correspondence addressed to the counselor-coordinator or Director was passed on to her.

Staff Training

Since the project was a continuing one for Colleges A, D, and E, some staff already knew how to operate the computer terminal. However, September meetings were scheduled at each of these colleges so that IRDOE staff and college staff could discuss the current year's objectives and priorities. In addition, at College D we reviewed use of the system with some counselors, and trained the coordinator's assistant at College E.

For the new colleges, training was more intensive. At College C, we conducted a 3-hour training session for approximately 20 counselors. IRDOE staff discussed the project's aims, explained the capabilities of GIS, and taught the group the use of the basic machine commands. Time was also allotted for individual counselors' practice in operating the terminal. A similar training session took place at Site B, but due to start-up difficulties (which included selection of a terminal location and delivery of the terminal), training did not start until December.

In addition to these formal training sessions, Colleges A, C, and D called on us to train or retrain more staff or student aides on several different occasions.

It was our experience again this year that there is great variability in the length of time needed to learn to use GIS. Whereas both the original and the "replacement" coordinators at Site B learned the mechanics of the entire operation from their review of the User Manual and Student Study Guide prior to attending a formal training session, some staff in other colleges took several months before they used the system with the same degree of confidence as did the people at Site B.

Staff Involvement

Last year, the degree to which members of the colleges' staffs were actively involved in using the computer was disappointing. It had been hoped that many counselors in the four community colleges would use it personally or at the very least, refer students to use it. While several did, most did not despite the coordinators' reports that staff attitudes toward the computer were positive.

This year the coordinators were asked to indicate on the Counselor-Liaison Questionnaire which faculty members were actively involved with the computer project. All three respondents (Colleges C, D, and E) professed involvement of some staff. College C indicated that all five professionals in the Career Counseling and Placement Office and two other counselors personally operated the terminal for students and participated in the followup discussions of the information obtained. From our observations and less formal discussions with staff, however, there seemed to be little, if any, evidence of these activities on the part of counselors.

College D's coordinator indicated that one staff member in particular was extremely active. This person, responsible for the college's Middle College Program (high school students participating in a special college program), introduced the students to the system, operated the terminal for them, and conducted followup sessions. The coordinator at College E, responding to the questionnaire, indicated that two counselors were active in all aspects of the program's operation: the counselor assigned to the History Department who also teaches career planning, and an evening session counseling coordinator.

A more extensive assessment of staff involvement was undertaken through the administration of the Counselor Questionnaire. In February 1976, this instrument was mailed to every counselor at Colleges A, C, D, and E. It contained questions concerning their familiarity with the computer, and asked their opinion of its value in vocational counseling.

Of the total 129 Counselor Questionnaires mailed to the four colleges, 49 (or 38%) were completed and returned. There was variation in the proportion returned by each college: 32% of College A's counselors responded; 34% of the counselors at College E responded; and 50% of the counselors at both Colleges C and D completed the questionnaire. The return rate was not high. It is granted that the questionnaire was fairly lengthy, and that CUNY counselors were exceptionally busy given the recent cutbacks in staff. Nonetheless, this rate of response may indicate disinterest on the part of the 80 non-respondents, or unfamiliarity with the project. The latter interpretation is, in our opinion, the more likely: the fact that the coordinators asked us to include either their name and/or the room location of the terminal in identifying the program on the questionnaire, offers some slight evidence for it.

The attitudes of the 49 respondents were positive. Almost all of these (94%) had heard about the computer, and 86% had seen a demonstration of it. Moreover, 65% reported talking with colleagues about the project.

The range of direct counselor involvement in the various aspects of the project was also encouraging. Approximately half the respondents indicated that they had either personally operated the terminal to assist students in obtaining information, or had been present during the operation. College D had a very high proportion of counselors--six of the seven respondents--who personally helped students at the terminal.

Eighty-two percent of the total number of respondents said they had referred students to the computer, and 31% of the total reported having had students referred back to them for followup conferences. Only one (8%) of the 12 respondents from College C reported seeing students to orient them to GIS, or for followup discussion after using it. This compares with 41%, 43%, and 31% of the respondents from Colleges A, D, and E, respectively, who reported this type of activity.

Approximately two-thirds of the respondents from all colleges combined had examined students' copies of both college and career output--printouts of the information from the computer. Five of College C's 12 respondents had seen a printout, but not one reported seeing printouts for both colleges and careers.

Thus, in general, direct staff involvement with the program was not as extensive as it appeared to be intensive. That is, in almost every instance a few members of the counseling staff became involved with the project and participated in multi-faceted ways. Our impression of the three colleges for whom this is the second project year is that more staff have become involved during the second year than had been involved in the first year.

Student Recruitment, Orientation, and Followup

In the 1974-75 year, a great deal of effort was spent in trying to improve recruitment techniques, scheduling of appointments, and followup referral.

Recruitment. That recruitment improved this year is reflected in the large increases in usage (see Tables 4 and 5). That it improved as a result of experience is evidenced when one compares a college's second year use with its own first year use. Furthermore, a college new to the project this year performed comparably with a college new to the project last year.

To determine which of the various recruitment techniques were more effective, we asked College E to include in its terminal sign-in identification procedure the source by which the student was recruited. Of the 447 students at College E using the computer, the greatest percentage--38%--were recruited because of their participation in special programs. Approximately half this program group consisted of high school students enrolled in courses at the college who were brought to the computer by their program advisor. Of the 447 student users, 29% were referred by counselors. Other faculty members referred 5%. Snoopy flyers[1] posted all over the campus accounted for the recruitment of 11% of the users. Another 9% of the users indicated they either "just walked into the office" or were referred by friends or family. How the remaining 8% of student users was recruited is unknown.

It is readily apparent from this data that counselors, other faculty members, and especially coordinators of special programs played the largest part in the successful recruitment of students at College E. This reinforces the role of college staff if such a program is to be fully utilized.

The User Interview and the User Questionnaire both contained a question about how students first learned about the computer facility. (It should be noted that these instruments were administered at Colleges A, C, D, and E during March and April 1976 and reflect a 6-8 week experience at these four sites.) Combining the responses to the same question on both instruments, 26% of the total 66 students responding first heard about the computer from a counselor; an equal proportion indicated that they first heard about it from a friend. Twelve percent were referred by teachers and other members of the faculty. The greatest proportion, 33%, reported that they "just walked in," while the smallest proportion (3%) were attracted by flyers. The student responses for College E did not differ greatly from those of the other colleges, but were somewhat different from the results obtained in the analysis of the terminal sign-ins. The Questionnaires and Interviews indicated a substantially greater proportion of students who "just walked in" or were told about the computer by friends. Both analyses, however, support the finding that newspaper articles and posters are much less effective recruitment techniques than are suggestions made by faculty and counselors.

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[1] See Appendix B for a sample of "Snoopy" flyers. These posters were changed at frequent intervals during the year to continue to attract attention.

Appointments. In large measure, the need for an appointment procedure is an artifact of how we scheduled on-line time. If, for example, each college had access seven days a week, it could probably process an interested student fairly immediately. If, on the other hand, access is restricted in the manner it was in this demonstration, a student may be forced to wait for the college's next on-line day which could be as long as a week away.

Once recruited, the general procedure was to ask students to make an appointment, although all schools accommodated walk-in students without one when possible. Two colleges, A and C, scheduled appointments at hourly intervals, while Colleges D and E made appointments at varying intervals. Three colleges, A, C, and E, reported that no student need wait longer than a week between making an appointment and using the computer. College D reported much shorter waits, while College E indicated that they frequently made the appointments on the same day as the use. Students generally kept their appointments. College A estimated that 60% of the students showed up, and at College C, 75% of the students kept their appointments. College E estimated that more than three of every four appointments made were kept.

Before using the computer, students need to be familiarized with the system. The basic source for such information is the Student Study Guide. At College A, when a student made an appointment, he was asked to look at the Student Study Guide and fill out a worksheet at the back.[1] College C did not permit students to see or borrow the Student Study Guide until the time he sat down at the computer terminal. College D, on the other hand, distributed the Student Study Guide during career seminars, and permitted any interested student to borrow one. At College E, the Student Study Guide was examined by the student at the time of use. The student and terminal operator read the booklet in detail to make certain that the student had considered all information that might be relevant. If there was a long interval period between the time the appointment was made and the day of the appointment, students were permitted to borrow the Guide.

Followup Activities. In order for the information that is retrieved from the computer to be of most benefit, a student and a counselor should be able to interpret it and discuss whatever actions the student may take based on that information. This presents no problem when both a counselor and the student are present at the terminal and processing the student's request. There is more of a problem when either (1) no counselor is present, or (2) when a student's request was outlined in writing and was run through the computer in his absence. This second situation is called "batching," and arises when a student cannot come to the terminal during on-line days. (See Table 9 for the proportion of students' requests for information that were batched.)

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[1] This worksheet, developed last year by the coordinator and IRDOE staff, is designed to help the student focus on his interests.

No site established a set procedure for followup discussions, and each differed with respect to their emphasis on such meetings with counselors. As reported by observers, the terminal operators at Colleges A and E gave students strong encouragement to go to their counselors to discuss the computer-retrieved information; College D's coordinator reported that almost all students received followup help from either members of the Career Advisory Center, their classroom teachers, or their counselors. College C reported that all students were referred back to counselors. We have no information concerning followup with the nine users at Site B.

Between 80% and 85% of the respondents to the student User Questionnaire and User Interview stated that they intended to discuss the information they obtained with someone; approximately one-third of them specified their intent to see their counselors. In general, students' responses accord with the responses of the counselors, approximately 30% of whom indicated that students had been referred back to them for followup conferences.

USE OF COMPUTERIZED GUIDANCE INFORMATION

This section will describe the amount of use of the computer, the number of students who made use of it during the project period, the characteristics of the students who availed themselves of the system, and the kinds of information they requested. Where possible, comparisons will be made between this year's and last year's experiences.

Hardware Malfunctions

Before examining how much time the computerized system was used, it is important to consider how much time, if any, was lost as a result of breakdowns of the equipment. The frequency, duration, and disruptive effects of mechanical malfunctions are important aspects of the feasibility question. This year, as last year, IRDOE collected data on malfunctions by examining Hardware Monitoring Checklists, which were to be filled out by the computer operator at the college on each day the terminal was used, and by keeping a diary of telephone calls made to us.

Had the colleges completed Checklists as requested, there should have been a total of 280, one for each college on each day it was on-line to the computer.[1] There were a total of 76 mechanical problems brought to our attention by 3 of the 5 colleges. The problems occurred on 42 different college-days, or 35 different calendar days. It is apparent from these fragmented data that there tend to be multiple problems on a single calendar day. If, for example, there is a breakdown at the central computer, the two colleges on-line should report the problem since both are affected by it. Disruption in some telephone lines will also affect all users. Other problems, however, such as a jammed terminal keyboard, are unique to a site.

The problems varied from relatively minor ones (e.g., spacing problems with the terminal printer, the printing of incorrect or jumbled characters known as "garbage," or temporary loss of the telephone connection requiring re-dialing) to more serious problems involving substantial loss of time. For example, such things as malfunctioning of the GIS program at the central computer, or a breakdown of a computer terminal generally require several hours to a full day to repair.

Overall, the serious problems were not frequent. For the entire year, the time lost due to mechanical problems was estimated at 37 hours, or 6% of the total time the colleges used the system. Some colleges had more equipment failure than others: College E reported 19 hours lost (13% of its on-line time); College D reported losing 14 hours (9%); and College A reported 4 hours (2%) lost because of malfunctions. College C and Site B reported no lost time, although we do not know whether this reflects good fortune or poor recordkeeping.

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[1] The total number of Checklists is at least two times the number of calendar days; with two access ports, each calendar day permitted two colleges access at the same time. Thus, a calendar day is equivalent to two college-days. In actuality, one day may equal three or four college-days because of the use of time left over from the high school project.

Telephone connection problems were most frequent, accounting for 56% of the 76 problems reported. Reports of either busy signals, sudden cutoffs, or inability to gain entry or access to GIS were the most frequently noted telephone-related complaints.

Second in frequency of occurrence (33% of the 76 problems) was locked keyboards, "garbage," or other terminal-related failures. These problems, as with the telephone-related ones, resulted in lost time of anywhere from 10 minutes to one-half day, though time losses of the shorter durations predominated.

Least frequently, problems occurred at TSC's central computer facility. These were usually of long duration, and resulted in the loss of the greater part of a day. Central computer problems occurred on eight college-days of time.

It appears, then, that malfunctions did not play an overly disruptive role in the operation of the computer. Long delays were few in number, and only a small percentage of time that the colleges intended using the system can be counted as lost.

Use of Time

Table 1 summarizes the total number of days scheduled and the number of days used at each project site[1] from September through June. Overall, 256 days--or 69% of the scheduled days--were used. The actual proportion of scheduled days used varied from 17% at Site B to 84% at College E.

It is unlikely that Colleges A and E found our system of prescheduling days unsuited to their needs, since few (if any) requests were made by these colleges for "trades" or for extra time. However, it should be noted that Colleges C and D, who used only 74% of their scheduled days, requested considerably more extra time. This might indicate that this type of schedule was less well-suited to their needs.

The number of days used at Site B was extremely low, and represented only 17% of their scheduled days. The explanation might lie in the Center's staffing problems. It should be recalled that the original coordinator was replaced because he had no time to devote to the project, and that the second coordinator worked three evenings a week, which apparently was not sufficient for recruiting users.

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[1] For convenience, Site B will be referred to as College B in the tables.

Table 1

Number of Days Scheduled for Use of the Computerized Information System and Number of Days Used, By College (September 1975 - June 1976)

College	N Days[a] Scheduled	Scheduled Days Used		N Extra[b] Days Used	Total Days Used
		N	%		
A	75	60	80	1	61
B	53	9	17	0	9
C	76	56	74	8	64
D	90[c]	67	74	15	82
E	76	64	84	0	64
Total	370	256	69%	24	280

[a] Scheduled days are counted from the first day after the initial orientation session: September 23 was the starting date for Colleges A and C, September 22 for College E, September 25 for College D, and December 5 for Site B.

[b] Includes extra days colleges requested, plus three days on which a college was on without making a formal request. Any part of a day a was counted as one whole extra day, although actually 23 of the 24 extra days were half-days or less.

[c] In addition to College D's 2 scheduled weekdays, they were scheduled for every Saturday. This accounts for the relatively large number of scheduled days: 15 of the 90 days were Saturdays. Eight of the 15 Saturdays were used.

Table 2 presents the total time the computer system was in use, each month.[1] For the entire project period, approximately 625 hours of time were used by all five colleges combined. College A used 37% of the total time, about 233 hours; Colleges D and E used about 150 (24%) and 143 hours (23%), respectively; and College C accounted for 15% of the total time, or 92 hours. Site B used the computer for less than seven hours during the six and one-half months they participated.

There is obviously great variation in the amount of computer time used by each college. It is important to note that the two colleges with the

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[1] It should be noted that CUNY was shut down for budgetary reasons for two weeks in June 1976. Thus, the figures presented for this month are lower than what could have been expected.

Table 2

Time (Hours:Minutes) Spent on the Computerized Information System, By College, By Month (September 1975 - June 1976)

Months	Colleges					Total
	A	B	C	D	E	
September	00:00	-	05:43	05:35	12:06	23:24
October	34:06	-	23:38	43:41	28:41	130:06
November	31:38	-	18:00	29:36	18:34	97:48
December	24:23	00:51	11:44	14:01	20:17	71:16
January	26:11	02:17	02:13	07:17	18:47	56:45
February	15:04	00:00	07:43	05:28	04:41	32:56
March	30:01	02:19	08:34	11:37	20:15	72:46
April	24:10	01:09	03:48	13:11	07:12	49:30
May	34:45	00:00	10:20	19:42	12:55	77:42
June	12:18	00:00	00:08	00:04	00:00*	12:30*
Sept-June	232:36	06:36	91:51	150:12	143:28*	624:43*
Average Time Per Day of Use	3:49	0:44	1:26	1:50	2:15	2:14

*As noted, College E's administration disconnected the telephone prior to the CUNY shutdown. When the University was re-opened in mid-June, the phone was not reconnected. Thus, June totals (and yearly totals) do not include College E.

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least amount of use are the two new installations. College C, new to the program this year, is comparable in performance to last year's College B (dropped from the project in the 1975-76 year). Although using twice as much total time, College C's average time per day of use was little different from that of College B last year--1:26 as compared with 1:05 per day.

When one compares the performance of the three colleges that participated in both years,[1] two of the three show a large increase in the total amount of time used. College D's total time increased by 25% and College A's total time increased by 47%. College E, which had the greatest amount of total on-line time last year, decreased this year by 15%. However, in examining the data in terms of average time per day of use, College A averaged one hour and ten minutes more per day of use in 1975-76 than in 1974-75, while College D increased by ten minutes. College E decreased their average daily use by approximately twenty-five minutes.

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[1] June was omitted in this comparison because of the unusual circumstances in 1976.

Looking at use month-by-month, it can be seen that in the first half of the year more time was used than in the second half. October and November tended to be peak months: in both 1974-75 and 1975-76, somewhat more than a third of the total year's usage occurred during October and November. As was the case last year, the least amount of use took place during the first and last months.[1]

Table 3 breaks down the total time used by each college into student time (time used to process individual student requests or time devoted to groups or classes of students); non-student time (time used to train persons to operate the computer terminal, to demonstrate GIS to groups or individuals from outside the college, or for counselors and faculty exploring the information in the computer for their own edification); and unidentified time--the purpose of which is unknown.

Table 3

Proportion of Time Spent for Student Use, Non-Student Use, and for Unknown Use, By College (September 1975 - June 1976)

(Figures in Percentages)

	Colleges					Total Time
	A	B	C	D	E	
Student Use	82	47	67	78	91	81
Non-Student Use	16	13	14	6	7	11
Unknown	2	40	19	16	2	8
Total	100%	100%	100%	100%	100%	100%
Total Time	232:36	6:36	91:51	150:12	143:28	624:43

The overwhelming proportion of the total time was spent for the use of students at the colleges. The range of student time was from 47% at Site B to 91% at College E. Non-student use of time ranged from 6% at College D to 16% at College A. College A devoted the greatest amount of its non-student time to counselors who wished to explore the computer's data bank. At Colleges B and C, most of non-student time was devoted to training staff to use the terminal. Colleges D and E, both of which used little non-student time, spent most of it either on counselors' explorations or for demonstrations for individuals or groups from outside the college.

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[1] Note again, however, that use in June 1976 would have been somewhat higher had the University not shut down for two weeks.

Unknown time was greatest proportionally at Site B, although the 40% unknown time represents only about two and one-half hours. Colleges C and D had fairly large amounts of time for which the purpose was unknown, 19% and 16% respectively, which may be attributed to poor recordkeeping--or more specifically, inconsistency in signing-in the user. It is also interesting to note that the three colleges that participated in both years' demonstrations had the least amount of unidentified time and the most time devoted to student use.

At all colleges most time was spent obtaining information for students or demonstrating the use of the computer to them. Colleges A, D, and E increased their total use of the computer time this year, while two new installations made relatively less use of the computer.

Number of Users

Table 4 presents, by month, the number of student uses at each of the five project sites. It should be noted that, as we define it, one student

Table 4

Total Number of Uses of the Computerized Information System, By College (September 1975 - June 1976)

Month	College					All Colleges
	A	B	C	D	E	
September	0	0	1	7	48	56
October	74	0	28	173	97	372
November	82	0	22	94	75	273
December	47	0	25	59	78	209
January	34	0	4	48	52	138
February	20	0	28	41	26	115
March	53	5	12	54	81	205
April	43	11	18	43	26	141
May	52	0	61	65	80	258
June	17	0	1	1	0*	19*
Total N Uses	422	16	200	585	563*	1786*
Total N Users	242	9	125	342	447*	1165*

*Totals do not include College E for the month of June 1976.

may have made several "uses" of the computer: he may have returned on different occasions for additional information, or on the same occasion he may have requested information from more than one of the data bank files. In both these cases, a student was considered to have used the computer more than once. All uses are reflected in the total uses row of the table. We also included for each college the total number of users. These user figures (on the last row of Table 4) represent the number of different students who used the computerized information system between September 1975 and June 1976.

Table 4 shows that, at a minimum, 1165 different students used the computer 1786 times to obtain information. The range in number of users was from nine at Site B to 447 at College E. The number of uses per different student at the colleges was 1.8 at Site B, and 1.6-1.7 in Colleges A, C, and D. College E had the lowest uses per student, 1.2, indicating that College E students were somewhat less likely to return for more information.

The pattern of uses is similar to the pattern of the amount of computer time colleges used. Again, Site B made almost no use of the system. While College C had considerably more uses (200) than Site B, it did not begin to approach the 422 uses at College A, or the 585 and 563 uses that occurred at Colleges D and E, respectively. The three colleges for whom this is the second year of the project were considerably more active than the two new installations.

Table 5 presents a two-year comparison of the total number of users and uses in Colleges A, D, and E. The comparison between their own first and

Table 5

Comparison of Total Number of Users and Uses, in Three Colleges (September 1974 - May 1975, and September 1975 - May 1976)[a]

	Colleges							
	A		D		E		Total	
	Users	Uses	Users	Uses	Users	Uses	Users	Uses
Sept.1974 - May 1975	127	182	114	155	355	466	596	803
Sept.1975 - May 1976	234	405	342	584	447	563	1023	1552
% increase	84%	123%	200%	277%	26%	21%	72%	93%

[a] The month of June was omitted from both time periods for this comparison because of the unusual circumstances in June 1976.

second years' activities is quite dramatic. The number of different students served, in the three colleges combined, increased this year by 72%. Each college had an increase which ranged from 21% at College E (whose usage was highest in 1974-75), to 84% at College A, to an astounding 200% for College D. The total number of uses increased even at a greater rate than the number of users at Colleges A and D--more than doubling at College A and increasing almost fourfold at College D. Clearly, usage this year improved, at least in those colleges with two years' experience with this type of computer program.

When one examines the average time per student use[1] at each site, considerable differences in style become apparent. Site B and College D averaged 12 minutes for each use, and Colleges E, C, and A averaged 14, 19, and 28 minutes per use, respectively. These averages reflect how much on-line time was devoted to a student. College E used relatively little time to process a request for information, because more than 40% of the requests were "batched" by the terminal operator in the students' absence. Batched use takes considerably less time because the operator works from a piece of paper--without a student who can think about his requests as he goes along. The disadvantages of batching are obvious, but must be weighed against the time saved, especially if computer time is at a premium.

College D often served groups of students at the same time. First they saw a demonstration of the computer system, after which the counselor or terminal operator quickly processed requests from several individuals. Colleges A and C, both of whom averaged more time per use, usually scheduled student appointments one hour apart. At College A, where the average time per use was by far the highest, each student was given a very complete explanation of what was being printed out by the computer and how it was affected by their instructions; they were encouraged to take their time, and ask all the questions they had. The patience and persistence of the assistant counselor and the coordinator were remarkable.

Student Grade Level and Curriculum

To ascertain how the priorities were being met as well as to better describe the student population who availed themselves of the computer experience, we asked the coordinators to indicate what semester student was most benefitted. The three respondents offered different opinions. The coordinator at College C indicated that second and fourth semester students received the most benefit from the computer, while the coordinator at College E said that first and fourth semester students gained the most. College D indicated that second, third, and fourth semester students have the best experience. The opinions of the coordinators at Colleges C and E are consistent with the pattern of use at these colleges, but are not consistent with the use at College D.

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[1] Calculated by dividing the total number of uses into the total amount of student time used.

For all colleges combined, first semester students accounted for the largest group of users--28% of the total. At College D, 35% of the users were in their first semester. As a matter of fact, first semester students at this college received considerable attention in the form of special orientation and career decision courses. College C attracted mostly second and fourth semester students, with 21% of their users in the second and 21% in the fourth semesters. For all colleges combined, the proportion of second, third, and fourth semester students was 12%, 13%, and 12%, respectively. Interestingly, 10% of the total user population consisted of high school students enrolled in special programs at Colleges D and E.

These results do not differ overall from last year's: in 1974-75, 32% of the student users were first semester students as compared to 28% this year. The most significant difference is in the proportion of first semester students at College D; last year they accounted for only 3% of College D's users as contrasted with the 35% noted above.

Table 6, page 31, summarizes the proportion of students in each curriculum area using the computer. Most student users this year were enrolled in liberal arts, and comprised 36% of the user population. This represents a drop from 52% last year, and may indicate that project priorities were being better served. Special programs participants (e.g., veterans in GED programs, high school seniors taking college courses) comprised the second largest group (12%) of users, followed by Business majors (9%), Technology majors (4%), and students in Computer Science (4%), Health (3%), Science (3%), and Secretarial Science (2%). Similarly to last year, non-matriculated students (7%) also used the computer.

As can be seen from the table, there was variation among the colleges. Almost half (47%) of the users at College A were identified as liberal arts students, while College C had proportionally fewer, only 30%, liberal arts

Table 6

Proportion of Student Users in Each Curriculum Area, By College (September 1975 - June 1976) (Figures in Percentages)

Curriculum (Number of Students)	College					All Colleges
	A	B	C	D	E	
Business (110)	13	0	10	16	3	9
Comp. Sci. & Data Processing (41)	3	0	3	5	3	4
Child Care (9)	1	0	1	0	1	1
Health (35)	5	0	0	2	4	3
Human Services (17)	0	0	0	4	1	2
Medical Tech. (16)	5	0	0	0	1	1
Nursing (23)	3	0	5	0	2	2
Occu. Therapy, Phys. Ther. & Recreation (12)	0	0	7	1	0	1
Art, Music, Media (5)	0	0	1	0	1	*
Architecture (3)	0	0	0	0	1	*
Secret. Sci. (28)	*	0	6	6	0	2
Technology (49)	7	0	0	*	7	4
Science (34)	*	0	14	*	3	3
Engineering (3)	*	0	0	0	*	*
Counseling (2)	0	0	1	0	0	*
Pre-Law, Pre-Pharm. (4)	1	0	1	0	0	*
Soc. Sci., Psych., Ed. (9)	1	0	1	1	*	1
Liberal Arts & English (417)	47	0	30	32	35	36
Special Programs (145)	0	0	0	19	18	12
Non-Matriculated (80)	0	0	1	0	18	7
Unknown (120)	14	100	18	14	2	10
Miscellaneous (3)	*	0	1	*	0	*
Total (1165)	100%	100%	100%	100%	100%	100%

* Less than 1%.

students. Colleges D and E attracted nearly 20% of their total users from special programs, while the other colleges attracted none. Business majors were well represented at College D (16%), and were insignificant in proportion at College E (3%).

File Use

Table 7 summarizes, by college, the proportion of uses in each of the GIS informational files. For all colleges combined, approximately half (48%) of the use was in the occupational file. The two-year college file was, as expected, little used (7%). There were differences among the colleges. Colleges C and E used the four-year college file in more than half the instances, even though they did not have a majority of users in the liberal arts (or transfer) curriculum (see Table 6). Two colleges (A and D) and Site B used the occupational file more than the four-year college file. The highest rates of use of the two-year college file occurred at College C (10%) and at Site B (25%). The Site B results suggest--although the numbers are so small--that an out-of-school adult population may find the two-year and the occupational data banks the most important parts of a system.

Table 7

File-by-File Use of the Computerized Information System,
By College (September 1975 - June 1976)

(Figures in Percentages)

File	College					Total Uses N=1786
	A N=422	B N=16	C N=200	D N=585	E N=563	
Four-Year College	41	25	53	36	51	44
Two-Year College	6	25	10	7	5	7
Occupational	49	50	35	56	44	48
Scholarship	4	0	1	1	0	1
Unknown	0	0	1	0	0	*
Total	100%	100%	100%	100%	100%	100%

*Less than one percent.

Comparing last year's file use to this year's for the three colleges, the overall results are nearly identical: a similar proportion (50%) used the occupational file both years, and there was a slight drop in the use of the four-year college file--from 45% to 43%. Looking at each college, College D increased its use of the occupational file from 47% to 56%; College E decreased its use of the occupational file from 51% last year to 44% this year; and College A remained pretty much the same.

Search and Descriptive Modes of Use

GIS can be used in two basic ways. One can perform a "search," in which the computer is given the user's specific requirements and responds with a list of colleges or occupations that meet these requirements. The second mode, which we call "descriptive," allows the user to ask for a description of a specific college or occupation. More often than not, the two modes are used together; after generating a list through searching, a user can ask for a description of the items on the list.

The percentage of searches and descriptions[1] for each college is presented in Table 8. For all colleges combined searches were the predominant form of use, accounting for 77% of the total uses. The proportion of searches varied by college from highs of 89% and 91% at Colleges E and A, respectively, to a low of 57% at College D. There was very little difference between last year's and this year's distribution.

Table 8

Proportion of Search and Descriptive Uses, By College
(September 1975 - June 1976)

(Figures in Percentages)

Mode of Use	School					All colleges combined
	A	B	C	D	E	
	N=422	N=16	N=200	N=585	N=563	N Uses = 1786
Search	91	69	71	57	89	77
Description	9	31	26	43	11	23
Unknown	0	0	3	*	*	*
Total	100%	100%	100%	100%	100%	100%

*Less than one percent.

---

[1] If a use consisted of a search followed by a description at the same session, it was counted as a search.

The prevalent use of the search mode is probably as it should be. Clearly, one of the unique contributions of the computer in retrieving information is its ability to rapidly select specific items (in the present instance, colleges and careers) from a large number of options. Descriptions of colleges and careers, on the other hand, are available in numerous other reference sources. Using the computer to obtain descriptive information, however, is not without its advantages. It is quick, and provides the student with a concise description, with an exact address (if he asked for a college) or a classification number in the D.O.T. (if he asked for an occupation). It has been reported, moreover, to be a great deal more fascinating source than is the D.O.T.

Direct or Batched Use

For convenience, a student's presence at the computer terminal while his request is processed has been called a "direct" experience; his absence, a "batched" experience. The direct experience permits a student to add, delete, or otherwise change information inputted to the computer on the basis of information the computer is generating; it generally takes longer, but offers immediate feedback. If the terminal operator is a skilled counselor, there may be no need for followup activities. Batching has an advantage in terms of allowing for greater numbers of student users. The batched experience can be characterized by an inability to change information (without making another request) once the request form is filled out, slower feedback, and the need for an appointment to discuss the output.

Table 9 presents, for each college, the proportions of batched and direct uses of the computer. As can be seen in the table, for all colleges combined, approximately two-thirds of the uses were direct. Batching accounted for less than one-quarter (22%) of all uses. The large proportion of "unknowns" results from the lack of data from Site B and College C--the terminal operators' failure to indicate the type of use when identifying a user. The coordinators at these sites, however, indicated that most, if not all the uses, were direct. Considering only those three colleges for which the data is fairly complete (A, D, and E), the lowest percentage of direct use, 55%, was at College E. In comparison, at Colleges A and D eight out of every ten uses were with students present at the time their requests were being processed.

Table 9

Proportion of Uses in Which Students Were Present (Direct) or Not Present (Batched) (September 1975 - June 1976)

(Figures in Percentages)

Type of Experience	Colleges					All colleges combined
	A	B	C	D	E	
	N=422	N=16	N=200	N=585	N=563	N Uses = 1786
Direct	80	0	17	80	55	64
Batched	12	0	0	17	43	22
Unknown	8	100	83	3	2	14
Total Percent	100%	100%	100%	100%	100%	100%

Again, the proportions of direct and batched use in the colleges that participated in both years were similar. The only difference was a decrease in "unknown"--from 11% to 4%--indicating an improvement in recordkeeping practices at the terminal at the three experienced colleges.

REACTIONS TO THE COMPUTERIZED INFORMATION SYSTEM

Staff Reactions

The reported reactions of staff members at all five sites were overwhelmingly positive. Their enthusiasm was readily observed, and was confirmed by every visit to Colleges A, D, and E. At Site B and College C, the enthusiasm did not seem to be, at least as yet, evidenced in behavior.

Our observers reported a high degree of interest in three of the colleges. At College A there seemed to be a genuine effort among the colleges' staff members to use the computer system to its best advantage: students received complete explanations of how the computer terminal functioned, what the information retrieved meant, and "where to go from here." The observed behavior at College D confirmed staff reports that they saw the computer as an important tool for the student and a time-saver for the counselor. Their regular requests for more computer time, and their successful negotiations to keep the computer service through August 1976 attest to their positive feelings. College E's staff was observed to be very concerned in making the computer system accessible to many students, and constantly strove to spread the word about "our valuable asset."

Staff at College C and Site B, in contrast, showed less enthusiasm. At College C, observers' reports indicated that staff members showed little interest in recruiting students, referring students, discussing the project among themselves or with IRDOE staff. The low use of the system at College C can be traced to those responsible for the college's participation in the project. Starting in 1974-75, the Director of Counseling expressed a desire to participate. Once involved, he and his delegated counselor-coordinator were friendly to observers, but had little time to talk about the computer. There seemed to be no noticeable effort on their part to involve other staff or students. Occasionally, however, they would depart from their usual statement that "the computer is great" to explain that the computer interfered with counseling, that the terminal was noisy and disruptive, and that they did not want a large number of students to come in to use the terminal out of curiosity.

It became obvious that College C's supervisory staff wanted little to do with the project, particularly when all questions, correspondence, and responsibility were shifted to the CETA aide. An eleventh hour attempt, however, made by the Director of Counseling to recruit student users proved very successful. The terminal was moved to the student cafeteria for one day, and more than thirty students--one quarter of their yearly total--requested and received information from the computer. It should be noted that responses from students at College C indicated as much excitement and enthusiasm as evidenced by students at the other project sites.

A high degree of interest in the computer project was evident at the initial training session at Site B. However, subsequent discussions with the original project coordinator indicated that the staff at the Continuing Education Center was simply too busy to use the computer. It was hoped that this problem would be alleviated with the hiring of a part-time staff member with responsibility for the computer, but he apparently had little time as well.

The three respondents to the Counselor-Liaison Questionnaire (from Colleges C, D, and E) described the attitude of their schools' counseling staff towards the computer project as positive. The coordinators at Colleges

D and E indicated that the level of staff interest grew from the first year to the second.

We previously mentioned that the response rate to the Counselor Questionnaire in no instance constituted more than half the potential total of respondents at a given site. The response rate for each college does not seem to be the only indicator of staff interest in the project or extent of use of the computer. For example, College E evidenced the greatest use, and had the second lowest response rate. On the other hand, 50% of the counseling staff at College C responded to the Questionnaire; excluding Site B, College C had the least use. We obtained comparable results in the high school project. In the high schools, staff and student enthusiasm was not related to the assessed impact of the computer experience on students' performance on vocabulary or decision-making tasks.

When asked to rate the computer as a disseminator of information, 98% of the counselors responding to the Questionnaire stated that the computer performed this function well. Approximately three-fourths (76%) of the counselors felt that the informational aspect would be of use to them. Sixty-three percent of the counselors stressed that the computer could not counsel, and 80% indicated that counselor followup or supervision of the entire process (from recruitment to followup) was necessary. When asked to rate the usefulness of the computer in working with students making career decisions, 88% or 43 of the counselors felt it was useful. On a similar question dealing with educational decisions, 82% of the respondents (or 40 counselors) indicated that the computer was of use.

It should be noted (and considered for the future) that in both 1974-75 and 1975-76 there was a site(s) that we could neither interest nor involve in the computer project. There seem to be two explanations for this remarkable difference in acceptance of the computer among project sites. First, there definitely seems to be a first year lag. The two new project sites this year are the ones with observably poor staff attitudes towards the computer. It is conceivable that attitudes would improve in a second year, since both College D and E's liaisons reported a positive increase in interest among staff as time progressed. This increase in interest has been demonstrated in increased usage in the second year.

Regardless of how long the college has had the computer available, staff reaction seems to be dependent on the coordinator at the college. In the absence of interested leadership, responsibility for the project fell on staff members who had too little time or too little influence in their institutions (at College C, in particular) to care for and develop the project by doing such things as launching recruitment drives, consulting with other counselors, or meeting with the coordinators of special college programs. We saw this last year at College B (1974-75 code).

Obviously, no program can function effectively without the proper support. In the case of implementing a computerized information system, it has been seen that an effort must be made to decrease staff resistence and actively involve staff. This effort will lead to growing interest and use among students.

Student Reactions

Not only were students impressed by their experience with the computer, but they gained by the process. Results of the User Questionnaire indicated that 62% of those students who asked the computer for college information obtained ideas about other colleges, and 72% of these students indicated that they would probably apply to some colleges the computer printed out. Similarly, 65% of those students requesting occupational information reported getting new ideas about careers, and 94% indicated they would follow up leads supplied by the computer.

When asked to rate the overall usefulness of the computer, 97% of those who had used the occupational file rated it as "very useful." The college files were also rated as "very useful" by those using them. No student rated either the occupational or college information as "not useful."

The coordinators reported excitement on the part of students using the computer, as well as some changes in direction. College E noted that one student, who was finding that the college was not suited to his needs, used the computer to explore alternatives and discovered a program of study at the Fashion Institute of Technology in which he was interested. The student transferred, and on a return visit to College E, expressed enthusiasm over this change. Most students we interviewed after their computer experience were also positively impressed. Many said that more people in the college should know about this service, that it should be better publicized. One student reported that the computerized information system was "the greatest thing that ever came to [College C]."

Participation of Special Groups

As part of the discussion of the reaction to the computerized information system, this section describes the special groups that sought out the use of the system--groups both from within the participating community colleges and from outside these institutions.

Students in special community college programs made up a substantial proportion of the computer users from Colleges D and E (19% and 18%, respectively). At College D, approximately 40 veterans enrolled in a GED preparatory course used the computer, as well as approximately 30 high school students in a special program at the college. College E's special groups included approximately 35 enrollees in a series of workshops for women considering re-entry into the world of work; also making substantial use of the computer was a special program for high school students enrolled in college-level courses. College C reported that approximately 10 enrollees in their workshop program for adults changing careers made use of the computer.

In addition, several outside groups used the system. At College D, as part of a career education grant project, approximately 140 junior high school students in the borough saw a demonstration of the computer and were permitted to request information. Groups of secondary school teachers from Queens used the computer resource as well. College E reported that secondary school guidance counselors, who heard about the computer from their students taking courses at the college, requested information for other students at their high schools.

At IRDOE's offices, we processed requests for information and gave demonstrations to people from other colleges and agencies. In such cases, we borrowed time from a college's schedule and operated GIS on our portable teletypewriter terminal. One such occasion was a workshop, sponsored by the Center for Advanced Study in Education, for community college counselors working with the handicapped. We demonstrated how such a system like GIS, not designed to do so, could be used to retrieve occupations that did not require certain physical capabilities. The workshop counselors were quite impressed.

A professor from Pace College working in the field of Career Education heard about IRDOE's computerized information retrieval project while making inquiries about the work being done in the field. After seeing a demonstration, she requested that 25-30 members of her course be allowed to use the computer. IRDOE complied by lending the women in the "re-entry to work" class several Student Study Guides. Each woman filled out a written request for information on a form we devised. These were delivered to IRDOE, where staff members batched the requests and returned them to Pace College. Subsequently, arrangements were made for several women who wanted more information to come to IRDOE's offices to use the terminal themselves.

An instructor at Lehman College teaching a course about the varied uses of computers asked for and received several hours of evening time to demonstrate GIS to his class.

Demonstrations of the computerized system were also arranged for three Bureau Chiefs from the New York State Education Department, and several representatives from New York City high school guidance departments. A large number of faculty members of CUNY asked to see a demonstration. In addition, almost every CASE employee requested and received information about colleges and careers during times when the computer was not in use. Boyfriends and girlfriends, sons and daughters--and their friends--were all accommodated. Requests for information at times seemed to be never-ending, and even appeared to increase with time.

CONCLUSIONS AND RECOMMENDATIONS

One of the important outcomes of the two year experience with a computerized information system in a total of five different CUNY community colleges and one adult continuing education site is that such a system can be of substantial value to students and counselors. The amount of value is related to how staff perceive such a facility, and how they use it.

Interest among college staff seems to increase with time, as does usage. It takes more than one academic year for this increase to be observable. For the three colleges involved in the demonstration for two years, usage in the second year almost doubled.

It has also become apparent that this type of project does not function well without the manifest interest and support of at least one college staff member in a responsible position. While most special projects are dependent on proper support to be effective, this type of project does not require the operation to be placed entirely in the hands of high-level faculty. On the contrary, Colleges A, D, and E gave considerable responsibility for its management to paraprofessionals, assistants, and students, with excellent results.

The results of this demonstration suggest some strategies for implementing a computerized information system at the community college level. By far the most important strategy is to involve counselors and faculty. To reach large numbers of students directly, the most effective technique is to place the terminal in a very heavily trafficked spot for a day or two on special occasions.

The role of counselors and faculty in the use of the computerized information system must also be emphasized. At all colleges, they were responsible for referring many students to the computer. In addition, their role in followup advising is an important and proper counseling function.

Not only has the installation of a computerized information retrieval system proven feasible to implement at most community college sites, but it has proven to be a useful tool for providing students with the information necessary for career and college decision-making. Much remains to be explored: What, if any, are the effects of such a system on the community college, and on the organization of the counseling department--e.g., does career and college counseling become more or less centralized? Is "first year inertia" unique to CUNY institutions, or will it be reflected in community colleges outside the CUNY system? How do we get more counselors to refer students to the computer, or make use of it themselves in their counseling? How can we facilitate the involvement of the majority of counselors who are as yet non-participants?

These questions suggest new areas of direction for future efforts. We think the computer is a valuable enough tool for counselors to be worth the effort of continued study.

APPENDIX A:
INSTRUMENTS

1. Hardware Monitoring Checklist
2. User Identification, CAG Terminal Instructions
3. Information Rating Card
4. Community College Counselor Questionnaire
5. Counselor-Liaison Questionnaire
6. User Questionnaire
7. User Interview

APPENDIX
A-1

HARDWARE MONITORING CHECKLIST

CAC-IRDOE

COLLEGE ____________________

DATE ____________________

If no malfunctions occurred on this day, check here ☐

MALFUNCTION (Symptoms)	√YES, Malfunction	DURATION OF PROBLEM				ESTIMATED TIME LOST (if any)	√YES, Called TSC	√YES, TSC Called Back Promptly	HOW WAS PROBLEM RESOLVED? (e.g., TSC provided alternate no., never resolved)
		If intermittent		If uninterrupted					
		from	to	from	to				
1. Access telephone number yields a BUSY SIGNAL									
2. NO DATA SIGNAL is heard on the phone.									
3. Telephone CONNECTION Problems (faint connection, accidently broken connections, etc.)									
4. Power on, light on, but NO ACTIVITY.									
5. Power on, data signal o.k., DATA LIGHT OFF or FLICKERING.									
6. NO Power, No Light, No Noise.									
7. KEYBOARD LOCKED (Power ON).									
8. Teletypewriter PRINTS OVER ITSELF.									
9. Teletypewriter PAPER JAMS									
10. Teletypewriter PRINTS "GARBAGE."									
11. PASSWORD rejected.									
12. CUTOFF in middle of Program.									
13. OTHER: Describe									

9-75

APPENDIX A-2

USER IDENTIFICATION
CAG TERMINAL INSTRUCTIONS
(Keep at terminal)

Before each individual uses the computer, type in the following:

1. Start with a SINGLE QUOTE (use the shift-7 key) '

2. Within the quote, type:
   a. STUDENT NAME (or I.D. NUMBER)*
   b. CURRENT SEMESTER (1st, 2nd, 3rd...)
   c. CURRICULUM (Tech., Health, Busin., A.A., Other, Non-Matric.)
   d. BATCHED (if student was not present) or DIRECT (if student was present)

3. Close SINGLE QUOTE (use the shift-7 key) '

4. Press CARRIAGE RETURN KEY

5. If a user other than a student in your college is involved, type in enough information within the single quote to identify him (e.g., title or position), his affiliation (school or agency), and the purpose of the use (e.g., demonstration, personal, experiment).

EXAMPLE: STUDENT USER

'JOHN SMYTHE 2nd AA DIRECT'

EXAMPLE: OTHER USER

'ELT CHAIRMAN OLYMPIA COL. DEMO'

*Each college has the option of using student names or student I.D. numbers; however, once the decision is made, it is crucial to use that option consistently.

APPENDIX A-3

Institute for Research and Development in Occupational Education

COMPUTER ASSISTED GUIDANCE INFORMATION RATING CARD

COLLEGE (check): ☐ LAG ☐ BRONX ☐ KING ☐ STAT

FILE: (check): ☐ OCCU ☐ COL 4 ☐ COL 2 ☐ SCHO

Characteristic code # , input # , or sequence: ____________________

Poor (Erroneous) Information (Describe briefly): ____________________

Bonus (Unanticipated) Information (Describe briefly): ____________________

Name ____________________

Date ____________________

2/76

APPENDIX A-4

CITY UNIVERSITY OF NEW YORK
CASE INSTITUTE FOR RESEARCH AND DEVELOPMENT IN OCCUPATIONAL EDUCATION

Computer-Assisted Guidance Project
Community College Counselor Questionnaire

Dear Counselor:

This questionnaire asks for your reactions to the Computer-Assisted Guidance project now operating at your college. We would appreciate knowing your honest reactions, even in those instances where you have had little or no exposure. We assure you that responses will be confidential.

Please answer each question. Either place a check on the appropriate line or write in your explanation in the space provided.

1. Approximately how many students are in your counseling caseload this school year? ____________

Please describe any special characteristics of students in your caseload (e.g., major(s); semester(s); special attributes such as veterans, work-study, etc.)

____

____

What kind of counseling do you do? (e.g., general, occupational, financial aid, etc.)

____

2. Where is your office located on campus? (Please give building name or number, and floor.)

____

3. Have you heard of the Computer-Assisted Guidance project (CAG) at your college?

____No; if no, are you interested in learning more?	____Yes; if yes:
____Very ____Somewhat ____Not Very	indicate approximate date you first heard ____________
Why?____________________	indicate how you first heard____
____________________	____________________
	indicate from whom you first heard
	____________________

For questions 4 through 9, please circle (SA) if you strongly agree,
(A) if you agree,
(D) if you disagree, or
(SD) if you strongly disagree.

4. Any counselor could learn to operate a computer terminal.

SA A D SD

5. A computer cannot perform student counseling functions well.

SA A D SD

6. Students should not use a computer to obtain college or career information without counselor supervision or follow-up.

SA A D SD

7. A computer can perform some student information-giving functions well.

SA A D SD

8. Computers are too difficult to use to be worthwhile for information-giving or counseling functions.

SA A D SD

9. Most counselors at this school would feel that a computer could be of use to them.

SA A D SD

Please answer questions 10 through 19 only if you have heard of the CAG project at your college.

10. Have you ever seen a demonstration of the computer system in operation?

______No ______Yes; if yes, when?________________________________

11. Since October 1975, about how many times have you been reminded that CAG is available? (Specify) __________________________. If none, check here: _______

12. Have you ever had informal talks with colleagues about CAG?______Yes ______No

13. Have you ever seen any computer printouts that students have obtained?

______No ______Yes; if yes, were they of:________college information?

________career information?

________both college and career information?

14. Have you personally helped students operate the computer terminal or have you been present when the terminal was being operated for them?

______No ______Yes

15. Have you ever had occasion to refer students interested in colleges or careers to the computer system?

______Not yet ______No ______Yes; if yes, please approximate how many you have referred this year and describe the circumstances:______________________________

____

16. Are many students referred to you before or after using CAG either for orientation or follow-up? ______No; ______Yes: if yes, about how many students who have been involved with CAG have you seen this year? ______________

17. Since the introduction of the CAG project and installation of equipment, have you noticed any change in the volume or type of interest in college and career information on the part of students? ______No; ______Yes: if yes, please describe the change(s) both in terms of the number of students and the type of information requested. ____

____

____

18. Overall, do you feel that CAG is (or can be with some changes) useful for you in working with students on careers?

______No; ______Yes. Please explain your answer______________________________

____

19. Overall, do you feel that CAG is (or can be with some changes) useful for you in working with students on colleges?

______No; ______Yes. Please explain your answer______________________________

____

20. What kind of changes or additions would you like to see in a perfected CAG system? (e.g., in information, scheduling, availability, location, operating difficulty, etc.) ____

____

____

We would appreciate having your name (optional)______________________________

APPENDIX A-5

CASE INSTITUTE FOR RESEARCH AND DEVELOPMENT IN OCCUPATIONAL EDUCATION

COMPUTER-ASSISTED GUIDANCE (CAG) PROJECT
COUNSELOR-LIAISON QUESTIONNAIRE, MAY 1976

SECTION I - CAG STAFFING

1. In addition to your regular duties and the CAG project, do you have any other special assignments for the 1975-1976 academic year?

______No; ______Yes; please specify:______________________________

2. In your opinion, why were you assigned (or reassigned) the responsibility for coordinating the CAG program at your college?

____

____

3. As coordinator of this special program, to whom are you responsible for reporting?

____

Please indicate how frequently this year you have reported on the CAG project?

____

4. In a typical week, approximately what proportion of your time was devoted to:

CAG (all aspects)?______________________________

Counseling (not with CAG)?________________________

Other college-related activities?___________________

5. Focusing just on CAG, what proportion of the total time you spent on CAG activities was devoted to:

Management procedures (scheduling, etc.):______________________________

Publicizing CAG (writing ads; contacting counselors, professors, etc.):__________

Recordkeeping for evaluation:______________________________

Checking/coding the students' requests for information (input):______________

Preorientation with classes, groups, or individuals:____________________

Personally operating the terminal:______________________________

Followup activities with students, including "decoding" printouts:____________

Other:________________; specify:____________________________

6. What changes has the availability of the computerized system effected in your general counseling procedures, duties, and distribution of time?

____

____

____

____

7. In terms of personnel, what help with running CAG have you had available on a regular basis? For each position listed, indicate the amount of time and nature of that person's duties.

Position	Time (hrs. per week)	Major Duties (in terms of tasks in Question 5)

8. Please describe any significant changes in personnel during this school year or, if appropriate, from last year to this year:______________________________

____

9. In the best of all possible worlds, what changes in staffing would you suggest for this project?

In the use of student aides:______________________________

In the assignment of liaison:______________________________

With clerical help:______________________________

With other staff professionals:______________________________

10. What effect has CAG had on the counseling department in terms of:

Staff attitudes toward computerizing information retrieval:______________________________

____

Division of departmental responsibility:______________________________

____

Number or nature of students served:______________________________

____

SECTION II - STAFF INTEREST AND SUPPORT

1. We are particularly concerned with how CAG is perceived by the counseling department and counselors.
In general, what seems to be the attitude of the counseling staff to CAG?

Negative	Somewhat negative	Neutral	Somewhat favorable	Positive

2. Has the attitude of the staff changed substantially since the project started?

______No; ______Yes; if yes, how:______________________________

____

3. Approximately what proportion of the counseling department faculty are familiar enough with CAG to use the system on their own?________________________________

4. In some colleges, staff other than those assigned to CAG have been more or less involved in the operation--have run the terminal, assumed responsibility for followup with students, etc. Below, indicate faculty members who have been substantially involved in CAG.

Position/Department	Type of Involvement/Support

5. Approximately what proportion of students were referred to CAG by counselors?

____

6. Approximately what proportion of students are referred back to their counselor after having CAG exposure?________________________

SECTION III - GENERAL PROCEDURES

1. Please describe how the counseling and other college staff have been informed of the availability of CAG. Please append copies of memos to department heads, articles in staff newspapers, etc.

Which of these were most effective?____

____

Which of these were least effective?____

____

2. Please describe the ways in which the student body has been informed of the availability of CAG (indicate general publicity methods as well as more specific procedures, and append copies of bulletin board notices, articles in the student newspaper, etc.)

Which of these were most effective?________________________________

Which of these were least effective?________________________________

3. Estimate the percentage of CAG student users recruited in the following ways:

From general advertisements (posters, campus paper, etc.) ________

From presentations to classes or groups ________

From counselor referrals ________

From referrals by other staff ________

From other student users ________

Other ________; specify ________________________________

Unknown ________

4. If a student is interested in using the computer, generally:

Who explains the computer operations and the computer instructions?________________

Who makes the appointment for the student?________________________________

Who helps students with the Student Study Guide?________________________________

Who operates the terminal?________________________________

Who helps students understand the output?________________________________

5. The 3-ply paper used in the terminal provides two copies of the output. Is the student given one copy?

______Yes; ______No

What is done with the second or carbon copy?________________________________

SECTION IV - HARDWARE PERFORMANCE AND SERVICE

1. Data Access Systems, Inc., the terminal vendor, says that it will repair teletypewriter malfunctions within 24 hours. Did you ever need to call Data Access Systems, Inc. this school year?

______No; ______Yes; if yes, on how many different occasions?________________
In how many of these instances were repairs made within 24 hours?________________

2. Rate the extent to which various computer network problems occurred.

Busy signal and/or no phone signal: infrequent | occasional | frequent

Password rejected: infrequent | occasional | frequent

Cutoff in middle of program: infrequent | occasional | frequent

Garbage: infrequent | occasional | frequent

Other (describe):____

3. We are interested in your opinion about the service provided by Time Share Corporation in solving the computer network problems. Please rate their service on each factor below.

	poor	fair	good	excellent
Prompt response to phone calls for help				
Courtesy				
Willingness to provide alternatives				
Forewarning of possible problems				

4. If you wish to comment on other, service-related aspects of Time Share Corporation's operation, please use this space.

SECTION V - OUTSIDE ACTIVITIES

1. Other than enrolled students, have any groups of people used CAG?

______No; ______Yes; if yes, indicate: Who:______________________

Number(s) involved:______________________

How they heard about CAG:______________________

2. Have students attending other colleges or high schools used CAG at your school?

______No; ______Yes; if yes, indicate the: Number(s) involved:______________________

School(s) involved:______________________

How they heard about CAG:______________________

3. Is use of the computer by persons other than students at your college encouraged or discouraged?

______Encouraged; ______Discouraged; ______Neither encouraged or discouraged

Please explain why:____

____

4. What CAG demonstrations or discussions, if any, have you had with staff from other CUNY colleges?

Personal visits (specify approximate number and colleges)______________________

____

Phone inquiries (specify approximate number and callers)______________________

____

Letters (specify number and writers)______________________________________

____

5. Please make use of this space to describe other outside activities not covered:

SECTION VI - MATERIALS AND THEIR USE

1. Please indicate when a student first sees the Student Study Guide (e.g., when making an appointment, when arriving at his appointed time to use the terminal, etc.):

____

____

2. Are the students permitted to borrow the Student Study Guide?

______No; ______Yes

3. In your opinion, is there anything missing from the Student Study Guide and/or User's Manual that should appear or that needs to be revised? (Consider, for example, whether a picture of a terminal would be helpful, whether new commands would be useful, whether "remedies" for malfunctions could be more usefully described, etc.)

____

____

____

____

4. The Student Study Guide explains the use of this system. Please rate its overall adequacy in terms of the typical student user at your school:

Reading comprehension level:

easy for the average student	at the average student level	hard for the average student

Definitions of commands and instructions (A,S,E/P,I, etc.):

easy for the average student	at the average student level	hard for the average student

Format (layout and arrangement):

poor	unsatisfactory	satisfactory	good

5. Have you revised and/or abbreviated the Student Study Guide or the summary sheet in the back of the book, or devised any other materials for explaining the system to students?

______No; ______Yes; if yes, specify what you did and whether it was effective:

____

____

SECTION VII - COLLEGE FILES

1. In your opinion, what changes could improve the college files?

____

____

____

____

2. Overall, do you think the four-year and two-year college files are logically structured and easy for students to interpret?

______Yes; ______No; if no, please explain:______________________

____

3. Have you found most two-year and four-year colleges that you feel should be in the data bank are in fact included?

______Yes; ______No; if no, what omissions have you found?__________

____

4. The college files do not include other postsecondary, non-college educational institutions. Do you feel any such institutions should be included?

______No; ______Yes; if yes, what types?________________________________

5. Have you found many errors in the information provided?

______No; ______Yes; if yes, indicate the particular types:________________

____

SECTION VIII - OCCUPATIONAL FILE

1. In your opinion, what changes would improve the occupational file?

____

____

____

____

2. Overall, in terms of searching for an occupation from the data bank, how understandable is the structure and content of the occupational file to the average student in your school?

very confusing	somewhat confusing	generally understandable	very easily understandable

3. The occupations in the data bank consist of a sample of occupations in the D.O.T. Does this sample include most of the types of occupations which students are interested in?

______Yes; ______No; if no, list significant areas of omission:________________

____

4. Does this sample of occupations include ones not appropriate or not diverse enough for students? (Consider jobs of too low or too high a level, near redundancies, etc.)

______No; ______Yes; if yes, please specify:________________________________

____

5. This system is designed to be used nationally. Does this limit the value of the occupational file for your students?

______No; ______Yes; if yes, how?____

____

SECTION IX - EFFECTS ON STUDENTS

1. Do you think it would be of significant benefit if students themselves understood the system completely rather than having the help they now get?

______No; why?______________________________

______Yes; why?______________________________

2. Overall, in your opinion, what types of students benefit most from CAG? Please be specific in terms of:

Semester(s)______________________________

Ability level______________________________

Aspirational level______________________________

Curriculum (transfer or career)______________________________

Other______________________________

3. Overall, in your opinion, what types of students benefit least from CAG? Please be specific in terms of:

Semester(s)______________________________

Ability level______________________________

Aspirational level______________________________

Curriculum (transfer or career)______________________________

Other______________________________

4. Have you had any instances where students were resistant to "computerized" information retrieval?

______No; ______Yes; if yes, how was it manifested?______________________________

5. Have you had any instances of "repeaters"?--students who return regularly and persistently?

______No; ______Yes; if yes, how would you characterize them?______________________________

6. Under what circumstances will a student's request for information be batched rather than run when the student can be present (e.g., is this done when student has no time for an appointment? when CAG staff is too busy? etc.)______________________________

7. Please describe the arrangements made for getting information back to a student after his request has been batched:

____

8. Approximately what percentage of the students who had batched experience with CAG had explanations or interpretations of the output in any of the following ways:

______had scheduled followups in a class or a group

______returned on their own with questions or additional requests

______had scheduled individual followup with CAG coordinator or a guidance counselo

______had no followup discussions of these types

______other: please describe______________________________

9. In the best of all possible worlds, indicate whether you would batch students' requests, and indicate why:______________________________

____

10. Please cite any anecdotal examples that suggest that, for some students, CAG has resulted in expanded alternatives, options, or plans for the future.

11. Please cite anecdotal evidence that suggests that CAG resulted in a change of direction, ideas, or plans for the future.

12. Please cite examples that might suggest indirect effects CAG has had on students, such as increasing their personal involvement with staff.

13. Overall, how would you characterize students' reactions to CAG?

extremely negative	negative	neutral	positive	extremely positive

SECTION X - GENERAL IMPRESSIONS, COMMENTS

Overall, do you feel that the computer has been a valuable tool for you in helping students with career and college plans? If you have any reservations about its usefulness, would they be changed by improvements in the specific computerized system employed, by a change in the location of the terminal, or by a change in the method of implementation?

Please discuss your views.

Name of Person Filling Out Questionnaire

APPENDIX A-6

CITY UNIVERSITY OF NEW YORK
CASE INSTITUTE FOR RESEARCH AND DEVELOPMENT IN OCCUPATIONAL EDUCATION

Community College - Computer-Assisted Guidance
User Questionnaire

College________________________________

Department or Major________________________________

Semester________________________________

Dear Student:

This questionnaire asks for your reactions to using the computer for college or career information. We would like to know your honest feelings, and guarantee that your responses will be confidential.

Please answer each question. Either place a check on the appropriate line or write in your explanation in the space provided. When you are finished, please put this questionnaire in the envelope provided.

1. How (or from whom) did you first hear about this computer facility? Check one:

______School Newspaper

______Bulletin

______Guidance Counselor

______Friend

______Other; please specify:________________________________

2. Was it difficult to arrange for an appointment to use the computer?

______No

______Yes; if yes, why?________________________________

3. Did you see or read the Student Study Guide before you actually used the computer?

______Yes

______No

______Not Sure

4. Counting this time, how many times have you used the computer?

______one time

______two times

______three times

______four times

______other; if so, how many times?__________

5. What kinds of things did you want information about from the computer? (Check one or more.)

______Information about specific college(s)

______A list of colleges that meet your qualifications

______Information about specific career(s)

______A list of careers that meet your qualifications

______Other; please state:______________________________

6. Were the people who arranged for you to use the computer and those who helped you run it helpful?

______Yes, Very Helpful

______Somewhat Helpful

______Not Helpful

7. Who operated the computer terminal?

______Counselor

______Aide

______You Yourself

______Not Sure

8. Will you discuss the printout with anyone? ______No; ______Yes: if yes, with whom?

____

9. After using the computer, did you get any new ideas about colleges?

______No

______Yes; if yes, what?______________________________

____

After using the computer, did you get any new ideas about careers?

______No

______Yes; if yes, what?______________________________

____

10. If you asked about colleges, do you think you will apply to any schools that you learned about from the computer?

______Yes ______No ______Not Sure ______Did not ask about colleges

11. If you asked about careers, do you think you will follow up any leads about careers that you got from the computer?

______Yes ______No ______Not Sure ______Did not ask about careers

12. Overall, how would you rate the usefulness of the computer for answering questions about careers?

______Very Useful

______Somewhat Useful

______Not Very Useful

______Not Useful

13. Overall, how would you rate the usefulness of the computer for answering questions about colleges?

______Very Useful

______Somewhat Useful

______Not Very Useful

______Not Useful

14. Please write any suggestions you might have for improving the quality or availability of the computer for giving career or college information.

____

____

____

Name (optional)____

APPENDIX A-7

CITY UNIVERSITY OF NEW YORK
CASE INSTITUTE FOR RESEARCH AND DEVELOPMENT IN OCCUPATIONAL EDUCATION

Community College - Computer-Assisted Guidance
User Interview

College________________________________

Department or Major________________________________

Semester________________________________

User Name (optional)________________________________

Dear Student:

This questionnaire asks for your reactions to using the computer for college or career information. We would like to know your honest feelings, and guarantee that your responses will be confidential.

Please answer each question. Either place a check on the appropriate line or write in your explanation in the space provided.

1. How (or from whom) did you first hear about this computer facility? Check one:

______School Newspaper

______Bulletin

______Guidance Counselor

______Friend

______Other; please specify:________________________________

2. Was it difficult to arrange for an appointment to use the computer?

______No

______Yes; if yes, why?________________________________

3. Did you see or read the Student Study Guide before you actually used the computer?

______Yes

______No

______Not Sure

4. Counting this time, how many times have you used the computer?

______one time

______two times

______three times

______four times

______other; if so, how many times?__________

5. What kinds of things did you want information about from the computer? (Check one or more.)

______Information about specific college(s)

______A list of colleges that meet your qualifications

______Information about specific career(s)

______A list of careers that meet your qualifications

______Other; please state:______________________________

6. Were the people who arranged for you to use the computer and those who helped you run it helpful?

______Yes, Very Helpful

______Somewhat Helpful

______Not Helpful

7. Who operated the computer terminal?

______Counselor

______Aide

______You Yourself

______Not Sure

8. Will you discuss the printout with anyone? ______No; ______Yes: if yes, with whom?

____

9. After using the computer, did you get any new ideas about colleges?

______No

______Yes; if yes, what?______________________________

____

After using the computer, did you get any new ideas about careers?

______No

______Yes; if yes, what?______________________________

____

10. If you asked about colleges, do you think you will apply to any schools that you learned about from the computer?

______Yes ______No ______Not Sure ______Did not ask about colleges

11. If you asked about careers, do you think you will follow up any leads about careers that you got from the computer?

______Yes ______No ______Not Sure ______Did not ask about careers

12. Overall, how would you rate the usefulness of the computer for answering questions about careers?

______Very Useful
______Somewhat Useful
______Not Very Useful
______Not Useful

13. Overall, how would you rate the usefulness of the computer for answering questions about colleges?

______Very Useful
______Somewhat Useful
______Not Very Useful
______Not Useful

14. Please write any suggestions you might have for improving the quality or availability of the computer for giving career or college information.

____

____

____

INTERVIEWER'S NAME__________________________ DATE____________

INTERVIEWEE'S SEX: ______M ______F

WHERE INTERVIEWED:________________________________

INTERVIEWER'S COMMENTS:

APPENDIX B:
RECRUITMENT

1. Newspaper and Magazine Articles
2. Memos to Counselors and Faculty
3. Letter to Workshop Participants
4. Publicity Flyers

APPENDIX
B-1

DASI Available To Night Students

By DOMINICK CAPOBIANCO

The Office of Career Counseling and Placement (T-535) has added a new member to their staff named DASI. Her job is to make it possible for students to have access to large amounts of information on all types of occupations, and data on all four and two year colleges. (Data Access System Incorporated) is in reality a teletypewriter hooked up to a computer bank in New Hampshire.

There are four areas that the student can get information on: 1) information about 40,000 occupations, 2) on transfering to four year colleges throughout the 50 state, public or private, 3) two year colleges and institutes and 4) information on scholarships that are available throughout the country.

Photo: Cappy

Prof. JOE ROGERS working with student and DASI.

Although you night students are working and going to school, DASI still can be of assistance to you.

For some of you Kingsborough is only the first step in furthering your education. Maybe you are not satisfied with the occupation you are in now. There may be facts about school. or your occupation that you don't know about that just might change your whole life for the better.

DASI thrives on work, and if we do not keep her busy all the time she may pack up and leave us. Find the time to get over and meet her, you owe it to yourselves.

If you wish to meet DASI's boss and others from the Administration, and counseling services here is where to go. Come to the T-8 Dining Room on Nov. 5th any time from 7 p.m. to 8 p.m. All of the people will be there ready and willing to answer all the questions that may be going through your head. Remember Nov. 5th. Look for posters around the campus.

DASI is in operation on Tuesdays and Wednesdays from 8 a.m.-8 p.m. Any stuudent wishing to use DASI should call ext. 304, or go to the placement office in T-335 and make an appointment.

Friday, October 10, 1975

This Computer Helps Out

By DOMINICK CAPOBIANCO

The Office of Career Counseling and Placement (T-535) has added a new member to their staff. Her name is DASI. Her job is to make it possible for students to have access to large amounts of information on all types of occupations, and data on all four and two year colleges. DASI (Data Access System Incorporated) is in reality a teletypewriter hooked up to a computer bank in New Hampshire.

There are four areas that the student can get information on: 1) information about 40,000 occupations, 2) on transfering to four year colleges throughout the 50 states, public or private, 3) two year colleges and institutes and, 4) information on scholarships that are available throughout the country.

The large amount of information readily available to the student and counselor makes it possible for them to engage in discussions at a higher level of meaning regarding the fundamental basis for decision making about careers and continuing education.

Prof. Joseph L. Rogers, one of the career counselors in the placement office is coordinating the operation of the computer. Prof. Rogers informs us that the use of a computer like this will not diminish the personalized relationship between the student and counselor.

All students whether or not they know what career or college to go into, should use the computer and go over the information they get from it with their counselor. They'll find out facts that they didn't know.

DASI is in operation on Tuesdays and Wednesdays from 8 a.m.-8 p.m. Any student wishing to use DASI should call ext. 304 or go to the placement office in T-535 and make an appointment.

"WHERE DO I GO FROM HERE?": THE CAREER ADVISORY CENTER

By: Andy Saluga

In the past year, a large number of LaGuardia students asked themselves, "Where do I go from here?" And the record shows that, in 1975, more than two thousand students came to the Career Advisory Center (C.A.C.) for information which helped them make decisions about that question.

The Career Advisory Center, located in Room 257 (Main Building), is an important student service. The C.A.C. can provide students with occupational and career information, job descriptions and employment outlooks in various fields, and programs of study at two-year and four-year colleges.

Information can be obtained from our career and college files, from our resource handbooks (including specialty books which deal with specific areas, such as community service or the health field) and perhaps most uniquely, from our computerized information system. By using the computer, our staff can provide information to meet a student's specific interests and characteristics. Computer time is available on Monday and Wednesday, for both day and evening students.

The C.A.C staff invites the entire LaGuardia community to stop in, or call Ext. 477, and use our service. We believe we have information you can use. (And if we don't have it, we'll get it!) Our record speaks for itself.

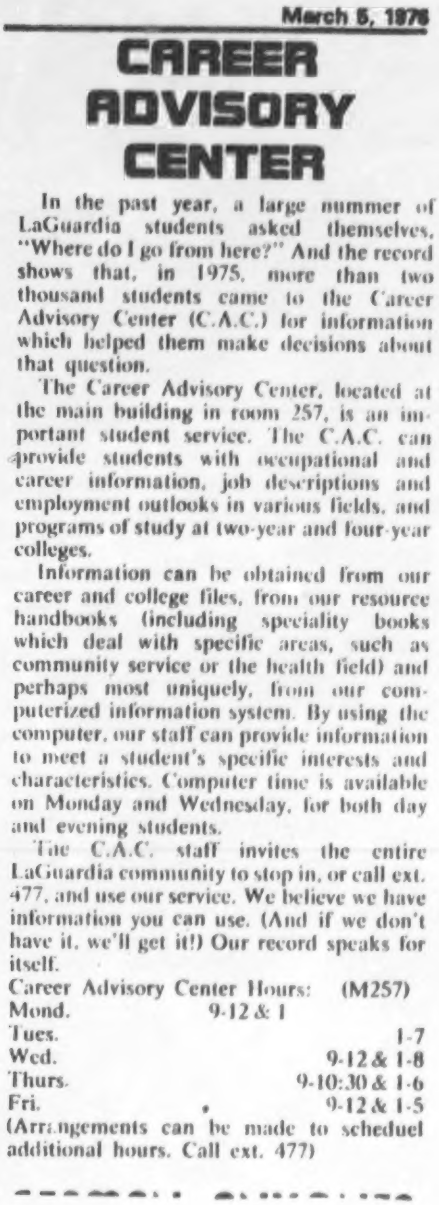
Career Advisory Center Hours: (M257)

Monday	9:00-12:00	1:00-8:00
Tuesday		1:00-7:00
Wednesday	9:00-12:00	1:00-8:00
Thursday	9:00-10:30	1:00-6:00
Friday	9:00-12:00	1:00-5:00

(Arrangements can be made
to schedule additional hour
Call Ext. 477)

Printed in The Humanist, magazine of the Student Activities Department, March 1976

Fiorello's Flute



March 5, 1976

CAREER ADVISORY CENTER

In the past year, a large nummer of LaGuardia students asked themselves, "Where do I go from here?" And the record shows that, in 1975, more than two thousand students came to the Career Advisory Center (C.A.C.) for information which helped them make decisions about that question.

The Career Advisory Center, located at the main building in room 257, is an important student service. The C.A.C. can provide students with occupational and career information, job descriptions and employment outlooks in various fields, and programs of study at two-year and four-year colleges.

Information can be obtained from our career and college files, from our resource handbooks (including speciality books which deal with specific areas, such as community service or the health field) and perhaps most uniquely, from our computerized information system. By using the computer, our staff can provide information to meet a student's specific interests and characteristics. Computer time is available on Monday and Wednesday, for both day and evening students.

The C.A.C. staff invites the entire LaGuardia community to stop in, or call ext. 477, and use our service. We believe we have information you can use. (And if we don't have it, we'll get it!) Our record speaks for itself.

Career Advisory Center Hours: (M257)

Mond.	9-12 & 1
Tues.	1-7
Wed.	9-12 & 1-8
Thurs.	9-10:30 & 1-6
Fri.	9-12 & 1-5

(Arrangements can be made to scheduel additional hours. Call ext. 477)

Article in the student newspaper, "Fiorello's Flute"

[illegible]
ude the Minority Equity Enprise Corporation, National liance of Businessmen, New rk State Urban Development orporation, Puerto Rican Comunity Development Project, pital Formation Harlem Comnwealth Council, Coalition nture Corporation, National ban League, and the Opporlnity Development Association.

Representatives from several ajor banks will also be on nd to explain what assistance y can offer.

)hio To Host :ctivities Fair

The third annual Student tivities Fair at the ights campus will be held Ohio Field next Thurs-, October 23, from noon 3 p.m., and co-coordina-'s Carl Aylman and Frank trone promise the event l be bigger and better an ever.

All campus clubs and athletic ups will be participating in Fair which is designed to owcase extracurricular activi-s. Booths, games and exhibits l be set up on Ohio Field t plenty of food, music and d raising sales will be avail-e. In case of rain, the action ves into the Student Center.

It will be a great Fair," pre-s Joe Williams, Student Acty Counselor in charge of C clubs. "It will give stuts the opportunity to see t the various clubs do and efully they will want to one or two."

tion call Prof. James Fahey, extension 448.

DEATH IN VENICE

Dirk Bogarde is the professor infatuated with a young man in Luchino Visconti's film adaptation of Thomas Mann's **Death in Venice.** The film will be screened Thursday, October 23, at 12:30 and 7:30 p.m., in room 208, Student Center. Admission is 50 cents with BCC I.D., $1 without.

DANCE BENEFIT

The BCC Athletic Association will present The Players Disco, featuring Becky "DJ" Jones, on Friday, October 24, 9 p.m. to 3 a.m., in the Gould Student Center. The donation, $2.50 in advance, $3 at the door, will benefit the basketball team.

GAY CALL

Members of the Gay Integrated Group invite interested men and women to attend their meetings Thursdays, noon to 2 p.m., in room 317, Tech Two. The group maintains office space in 306, Gould.

HAMS WANTED

Have an international affair! Become a ham — that is an amateur radio operator — and talk to people abroad. For more information call extension 606 or 570.

NURSING LIBRARY

The Nursing Center Library hours published in the last issue of **The Communicator** were incorrect. The library is open Monday through Friday, 8:30 a.m. to 4:45 p.m. It is closed evenings and Saturdays. Budget cutbacks have forced the reduction in hours.

BLACK NETWORK

The Black Network is being formed to help students cultivate their political, social and

[illegible] sponsor. For more information contact the Center's administrator, Mr. Davies Burton, in rooms 201 to 3, extensions 481, -2, or -3.

DISCOUNT TIMES

The New York Times is for sale weekdays at the special price of 15 cents at the service desk in the lobby of the Student Center and through vending machines in the lobby of Tech Two and the main entrance of Loew Hall. **The Times** is a fine supplement to your favorite newspaper—**The Communicator.**

CANDY NEXT

When you've finished **The Times** and there's no **Communicator**, a good way to spend some time is eating candy. And candy is just what the special cart in the Student Center lobby dispenses from 10 a.m. to 8 p.m. on class days. Stock is ordered weekly to assure freshness.

ASK THE COMPUTER

What colleges in the New England states offer a major in Nutrition and Dietetics? What kinds of occupations in the health field would make use of your concern for people but not require daily mathematic computations? What are some occupations related to speech pahtology? These are just some of the questions the Career-College computer in room 307, Loew, can answer for you. Students are urged to make an "appointment" with the computer and ask career and study oriented questions. The computer terminal will deliver a printout with the information you were seeking.

PLACEMENT EXAMS

Placement examinations for

& Physically Inconvenienced Students	GA-107
College Discovery Club	GA-301
Committee Against Racism	GA-101
Film Workshop	TT-302
Forensic Society	TT-407
French Club	GA-201
Gay Integrated Group	TT-317
German Club	GA-207
Haitian Student Assn.	GA-307
History Club	TT-405
I.E.E.E. (day)	GT-108
I.E.E.E.E. (eve.)	GT-108
Italian Club	TT-521
Jewish Student Coalition	TT-501
Latinos Unidos Club	GA-103
Music Club	GU-Music Lounge
Muslim Students	GA-303
Olympus Society	TT-227
Phi Theta Kappa	TT-202
Physical Education Majors	AG-4th Fl.
Political Science Club	TT-205
Pre-Law Club	TT-330
Progressive Labor Party	TT-404
Psychology Club	TT-206
Puerto Rican Student Assn.	TT-204
Readers Theater	TT-G01
Society of Manufacturing Engineers (SME)	GT-224
Secretarial Club	TT-332
Seekers	BL-206
Shutterbugs	TT-303
Spanish Club	TT-331
Tau Alpha Pi	GT-205
The Way, Campus Outreach	BL-301
Theater Workshop	Theater Lounge
Travel and Tourism	SA-201
Veteran's Association	SA-101
Young Socialist Alliance	GA 105

* * *

Legend: AG, Alumni Gym; BL, Bliss; GA, Gould Annex; GSC, Gould Student Center; GT, Gould Tech I; GU, Guggenheim; NH, New Hall; SA, Sage; TT, Tech Two.

Fiorello H. LaGuardia Community College

APPENDIX B-2

Memorandum

To: Coop Coordinators
Counselors

Date: 1/23/76

Subject: Career Advisory Center

From: La Vergne Trawick,
L. Trawick

The Career Advisory Center will be open during the following hours:

Monday	9:00-12:00	1:00-8:00
Tuesday	1:00-7:00	
Wednesday	9:00-12:00	1:00-8:00
Thursday	9:00-10:30	1:00-6:00
Friday	9:00-12:00	1:00-5:00

Arrangements can be made to schedule additional hours. Do contact Andy Saluga (ext 477) to talk about how the CAC can serve you.

March 24, 1976

TO: Coop. Coordinators and Counselors

FROM: LaVergne Trawick

RE: CAREER ADVISORY CENTER HOURS

The Career Advisory Center will be open during the following hours of the Spring Quarter:

Monday and Wednesday

9:00 a.m. to 4:00 p.m.

5:30 p.m. to 8:00 p.m.

Tuesday and Thursday

9:00 a.m. to 4:00 p.m.

5:30 p.m. to 7:30 p.m.

Friday

9:00 a.m. to 4:00 p.m.

Arrangements can be made to schedule additional hours by contacting Andy Saluga Ext. 477

STATEN ISLAND COMMUNITY COLLEGE
THE CITY UNIVERSITY OF NEW YORK

o Program Directors & Counselors

rom Paul Siegel Date 9 October 1975

ubject Computerized Guidance Info System

The Choice Center is offering a unique service to it's students designed to save the student and the counselor time in exploring the areas of education and vocational information.

Incorporating personal referals by counselors with a computerized data-retrival system, we are able to give instant access to information about occupations, two-and four-year colleges.

The student will have a greater amount of information available in a shorter period of time than was ever before possible. The student can interact directly with the information because the results are printed out immediately. This places the decision-making where it belongs, with the student.

The time saved makes it possible for the student and the counselor to engage in more meaningful discussions about careers and educational goals.

The Guidance Information System (GIS) is at our disposal on Mondays and Wednesdays from 9A.M. to 5P.M. If you are interested in a demonstration, please contact the Choice Center at 7630. Ask for either Fay Schiff, our program coordinator, or Paul Siegel.

Enclosed you will find a copy of The Student Users Guide to the system. If you want more copies, please contact us and we will try to accomodate you.

cc: Dean Kuhn
Dean Attinson
Dean Cardegna
Dean Habenstreit
Dean Petrone
Mr. Ernesto Loperena

715 Ocean Terrace / Staten Island / New York 10301 (212) 390-

STATEN ISLAND COMMUNITY COLLEGE
THE CITY UNIVERSITY OF NEW YORK

Associate Dean of Faculty

APPENDIX B-3

December 18, 1975

Dear Participant:

As mentioned previously at the meeting on December 5th, we have a computerized Guidance Information System available in the Choice Center (Rm. A-141). This system is designed to provide occupational information and can help you to narrow down the range of career alternatives that might be of interest to you.

Arrangements have been made so that this computer system will be available to you on the following dates:

Wednesday -	Jan.	14th -	9:00-5:00 P.M.
Monday -	Jan.	19th -	9:00-5:00 P.M. 6:00-9:00 P.M.
Wednesday -	Jan.	21st -	9:00-5:00 P.M.

If you are interested, kindly telephone 390-7630 and schedule an appointment with Mr. Paul Siegel or Ms. Fay Schiff. When you call for the appointment, mention that this appointment is part of the Careers for Women Program.

Sincerely,

Roslyn Attinson

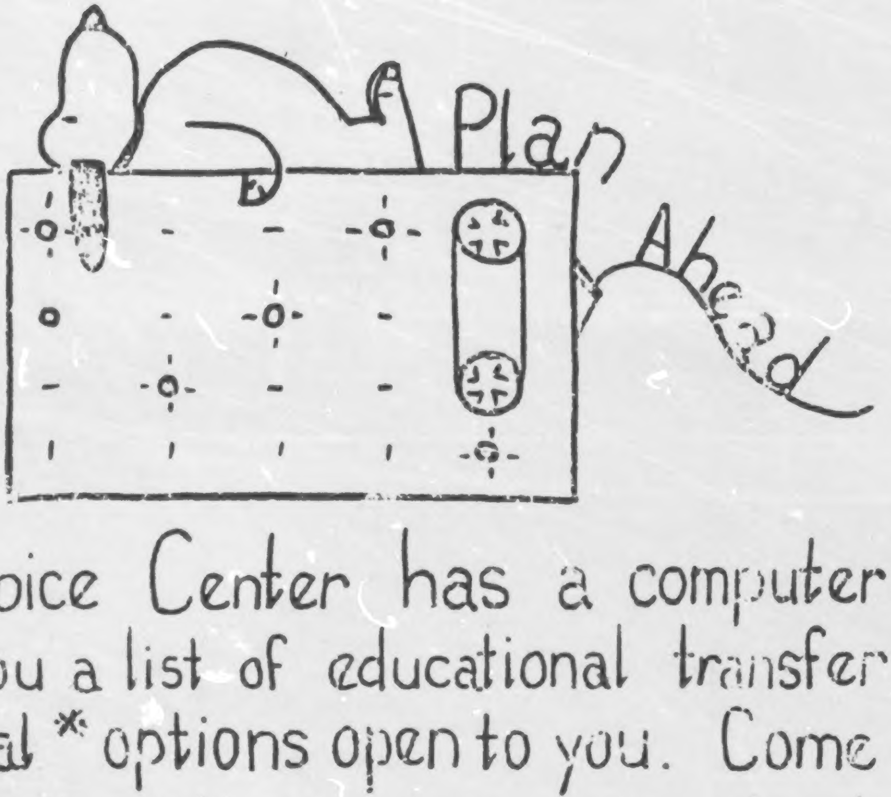
Roslyn R. Attinson
Associate Dean of Faculty

RRA:cm

My best to you for a
happy holiday season.
RRA

715 Ocean Terrace / Staten Island / New York 10301 (212) 390-7616
Staten Island Community College of the City University of New York is administered by the Board of Higher Education under the program of the State University of New York

Where Are You Going From Here?



The Choice Center has a computer that
n give you a list of educational transfer and
cupational * options open to you. Come by
oom A-141 to set up an appointment.

ee your Counselor first for additional informatio

Comfortable?

Do you know where you're going from here?

Snoopy invites you to check out his computer in the Choice Center for colleges that meet your future educational goals. Stop by A-141 to set up an appointment.

BRONX COMMUNITY COLLEGE
DEPARTMENT OF STUDENT DEVELOPMENT

CAREER COUNSELING SERVICES

TEST YOURSELF

Career Quiz:

1. Do you know what an urban planner does? (Develops comprehensive plans for revitalization of urban communities.)

2. Do you know how much a speech pathologist earns? (Can start at $12,000. with master's degree.)

3. Do you know what a kiss setter does? (Shapes and wraps candy kisses.)

4. Do you know what job the most powerful woman in the United States holds? (Newspaper Editor - Katherine Graham of the Washington Post.)

5. Do you know how many years of education are required to become a landscape architect? (At least a bachelor's degree.)

6. Do you know what a banana spotter does? (Works with molds in a plastics industry.)

Occupational Checklist:
(All of these questions can be answered by use of the Occupational Outlook Handbook and other Career Library materials.)

1. Do you know the job outlook in the career of your choice?

2. Do you know the training options in your career?

3. Do you know the entrance requirements for obtaining employment in the career of your choice?

4. Do you know the opportunities for advancement in the career of your choice?

5. Do you know the starting salary in the career of your choice?

6. Do you know the maximum earning potential in your career?

7. Do you know the working conditions in the career of your choice?

8. Do you know how to prepare a resume?

FOR THE RIGHT ANSWERS SEE YOUR COUNSELOR

OR

GO TO CAREER LIBRARY LOEW 307

BRONX COMMUNITY COLLEGE

CAREER PLANNING

HIT OR MISS ? ? ?
TRIAL AND ERROR ? ? ?

THERE MUST BE A BETTER WAY!!!!!

CAREER COUNSELING SERVICES
DEPARTMENT OF STUDENT DEVELOPMENT

CAREER AND TRANSFER LIBRARY - LOEW 307

Books, pamphlets, tapes, college catalogs. Info on all occupations, job characteristics, job outlook, earnings. Quiet atmosphere, helpful people to assist you!

CAREER EXPLORATION GROUP

Meet once a week with other undecided students and a counselor to solve some of the mysteries of career choice. Broaden knowledge of job world, explore your career values, learn decision-making techniques, SIGN UP NOW at Service Center or at Career Library, Loew 307.

CAREER INTEREST TESTS

Ask your counselor how you can uncover interests and preferences you never knew about before. See how your interests relate to the job world.

CAREER COMPUTER

Contemplating a change of curriculum? Looking for a 4-year college that specializes in your interests? Have questions about certain careers? Hook up with our "Career Computer". More information in Career Library, Loew 307.

Completely confused?
Information overload?
Need help in getting started?
Need to crystallize your career plan? SEE YOUR COUNSELOR!!!!

TEST YOUR CAREER COMPETENCE
ON BACK OF THIS SHEET

Prof. Anita Baskind   Loew 307
Career Planning   X 254

(OVER)